KUDRYAVTSEV, Vladimir Nikolayevich; ZHARENKOV, F.A., dotsent, kand.tekhn. nauk, retsenzent; VOLZHENSKAYA, A.M., inzh., red.; VASIL'YEVA, V.P., red.izd-va; SHCHETININA, L.V., tekhn.red.; FRUMKIN, P.S., tekhn.red.

[Planetary gear transmissions] Planetarnye peredachi. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 279 p. (MIRA 13:3)

(Gearing)

VOLZHENSKIY, A., prof., laureat Leninskoy premii; KOGAN, G., kand.tekhn. nauk

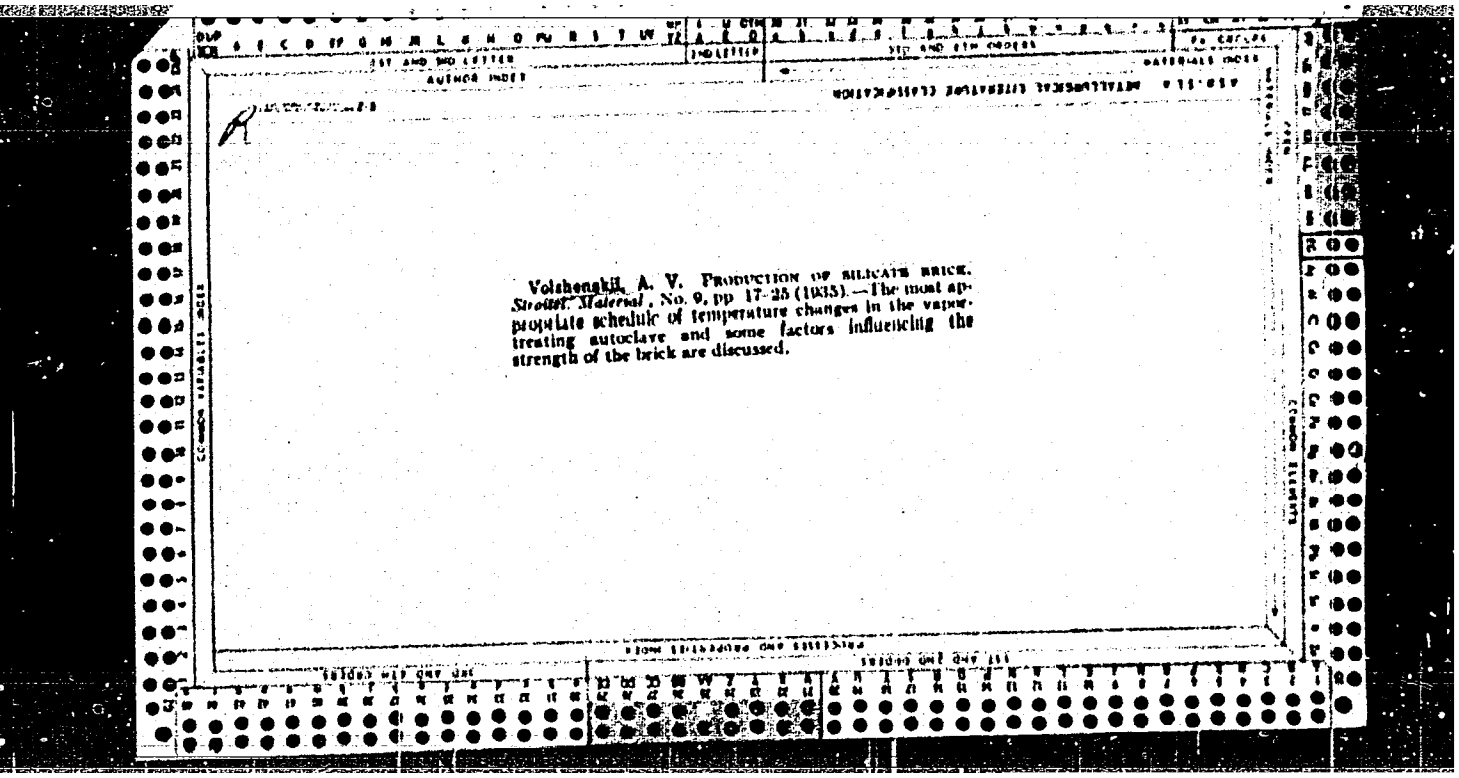
Gypsum is the associate of cement. Na stroi.Ros. 3 no.9:27-29 S '62. (MIRA 15:12)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).

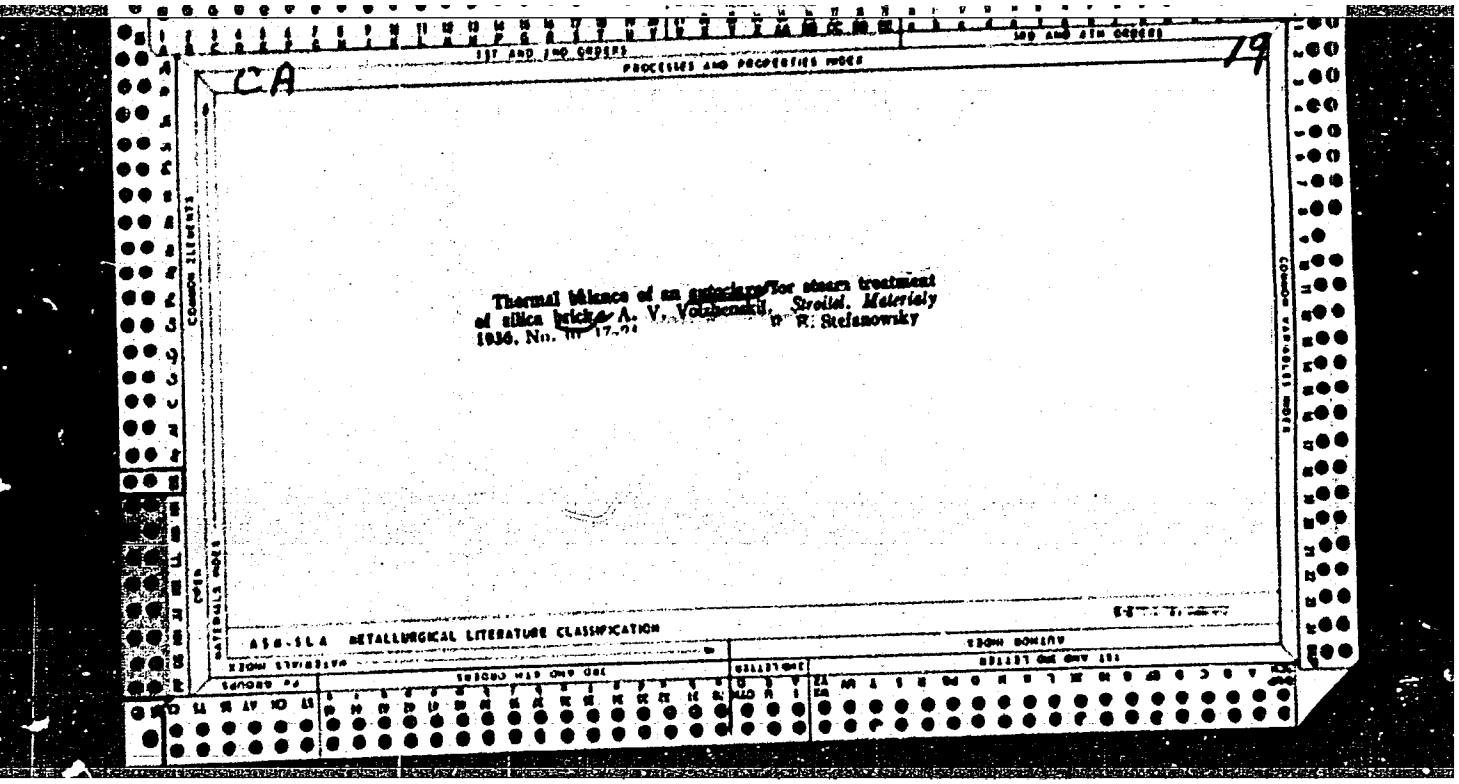
(Gypsum)

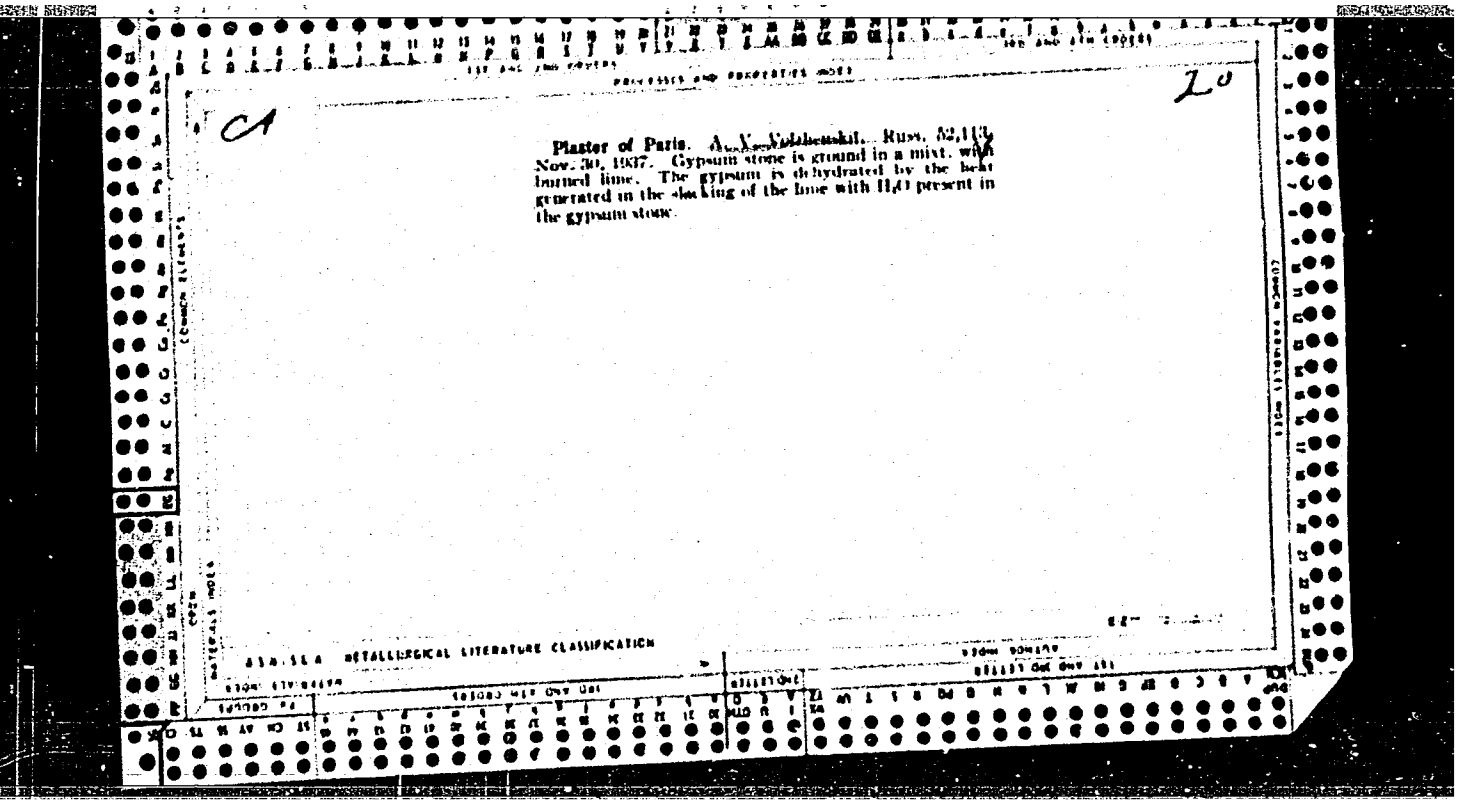
VOIZHENSKIY, A.V., prof., doktor tekhn.nauk; FERRONSKAYA, A.V., kand.tekhn.nauk; MIKHAYLOVA, G.F., inzh.

Sulfate resistance of gypsum-cement-pozzuolan and gypsum-slag-cement binders of improved strength. Stroi. mat. 11 no.10:30-31 O '65. (MIRA 18:10)



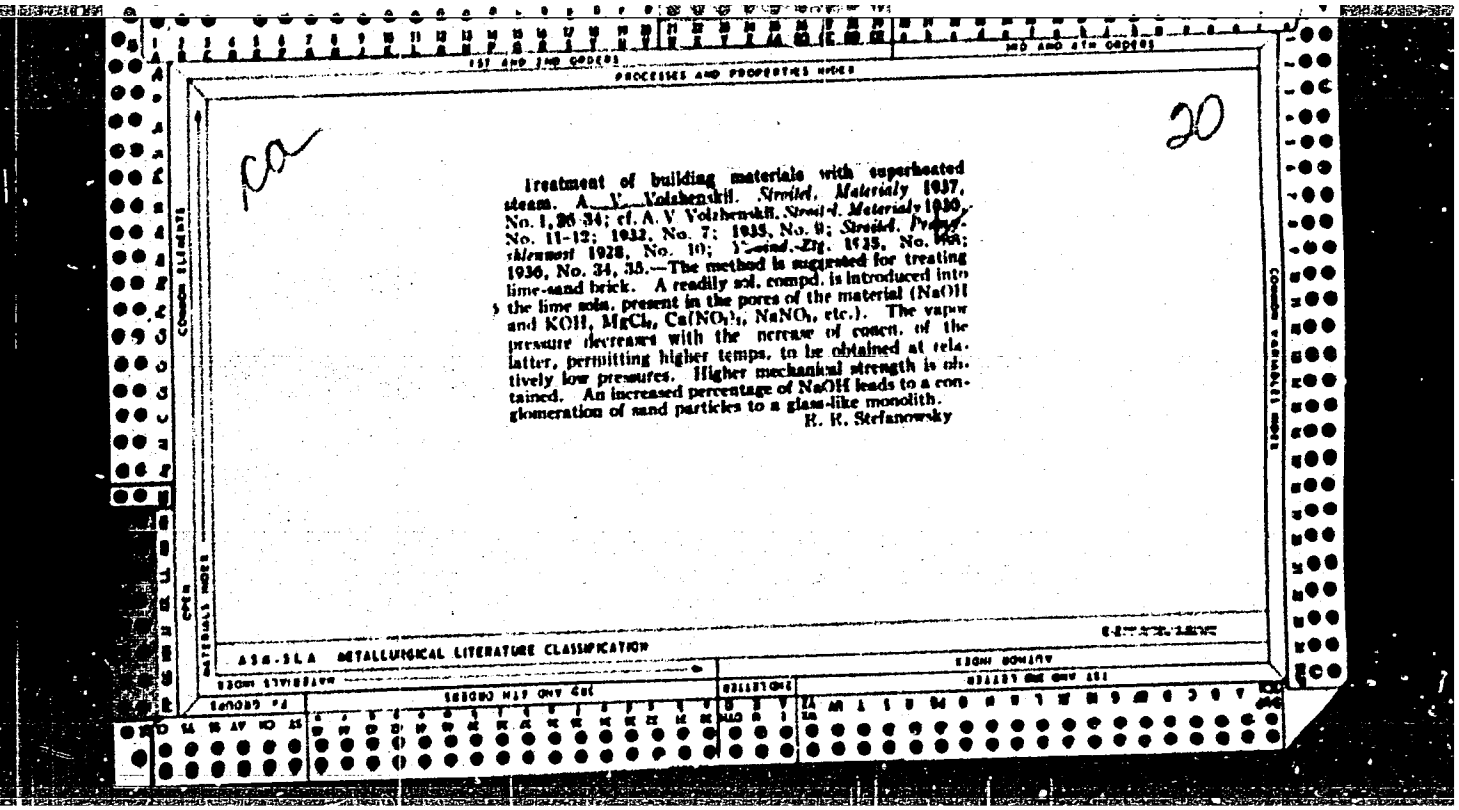
Volzhenskii, A. V. PRODUCTION OF SILICATE BRICK. *Stroitel. Material*, No. 9, pp 17-25 (1935).—The most appropriate schedule of temperature changes in the vapor-treating autoclave and some factors influencing the strength of the brick are discussed.





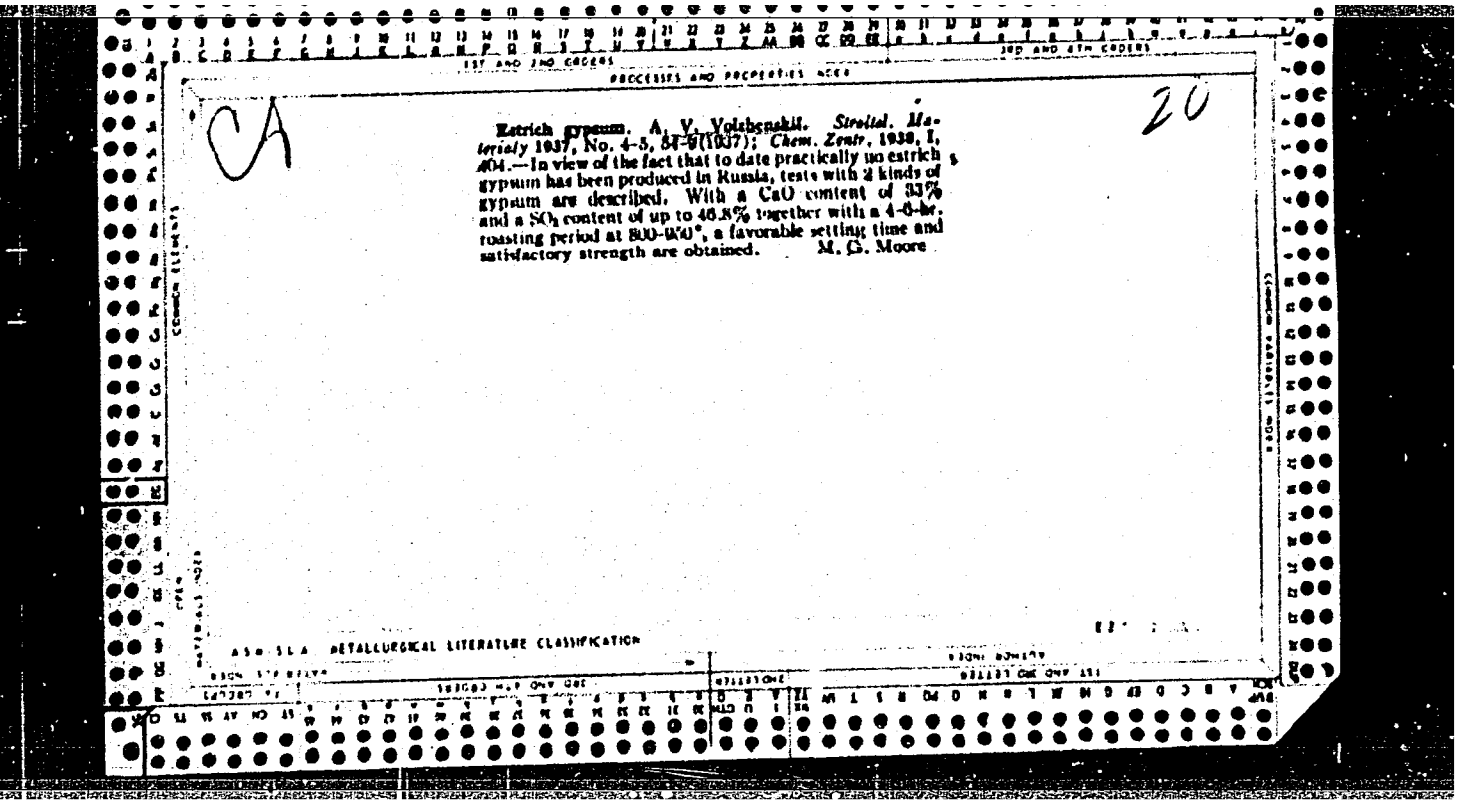
C1

Plaster of Paris. A. V. Volchenskii. Russ. 52,113 Nov. 30, 1937. Gypsum stone is ground in a mixt. with burned lime. The gypsum is dehydrated by the heat generated in the slacking of the lime with H_2O present in the gypsum stone.



Treatment of building materials with superheated steam. A. V. Volzhenskii. *Stroitel. Materialy* 1937, No. 1, 26-34; cf. A. V. Volzhenskii, *Stroitel. Materialy* 1930, No. 11-12; 1932, No. 7; 1935, No. 9; *Stroitel. Promyshlennost* 1928, No. 10; *Tsement.-Zig.* 1935, No. 44; 1936, No. 34, 35.—The method is suggested for treating lime-sand brick. A readily sol. compd. is introduced into the lime soln. present in the pores of the material (NaOH and KOH, $MgCl_2$, $Ca(NO_3)_2$, $NaNO_3$, etc.). The vapor pressure decreases with the increase of concn. of the latter, permitting higher temps. to be obtained at relatively low pressures. Higher mechanical strength is obtained. An increased percentage of NaOH leads to a conglomeration of sand particles to a glass-like monolith.

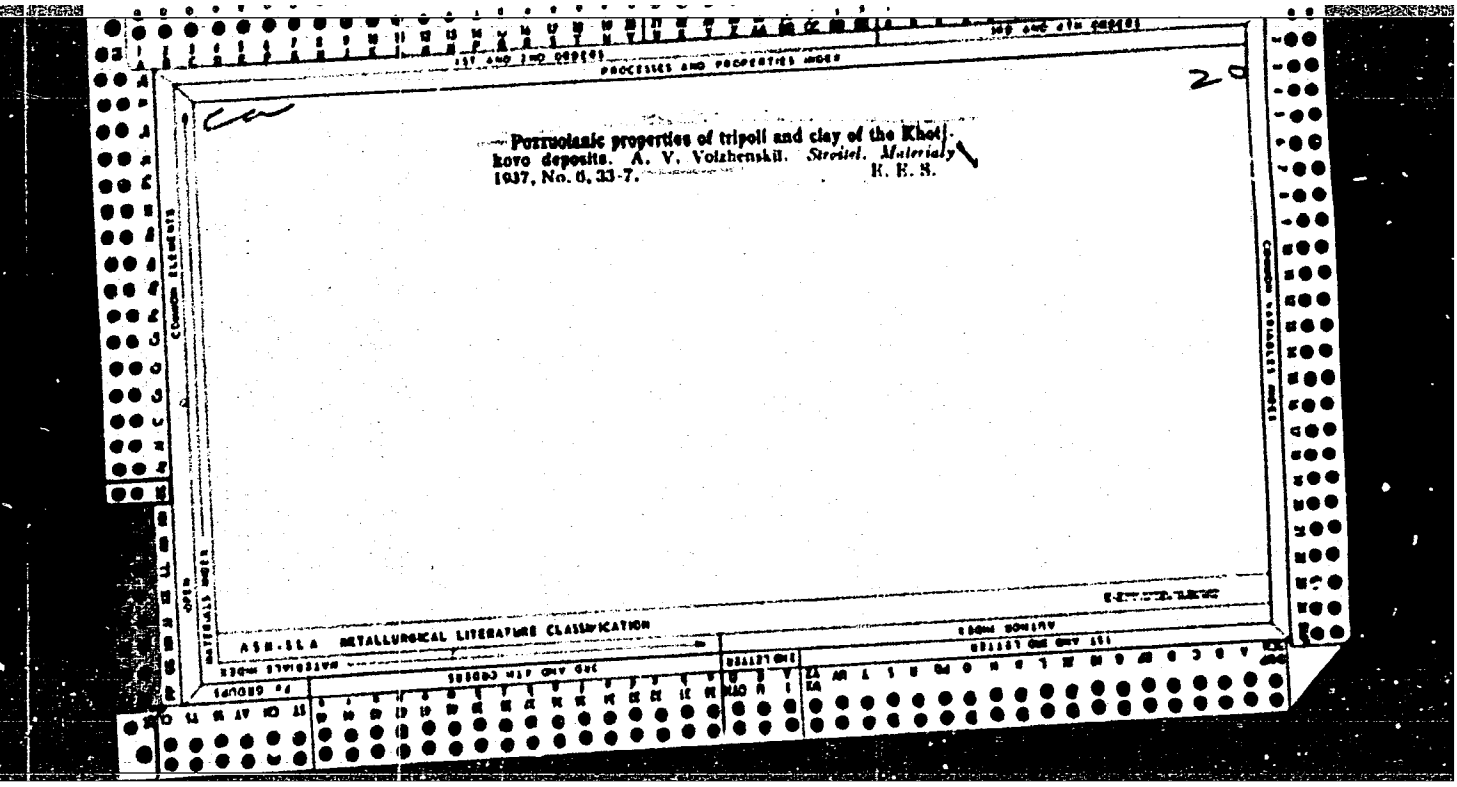
R. R. Stefanowsky

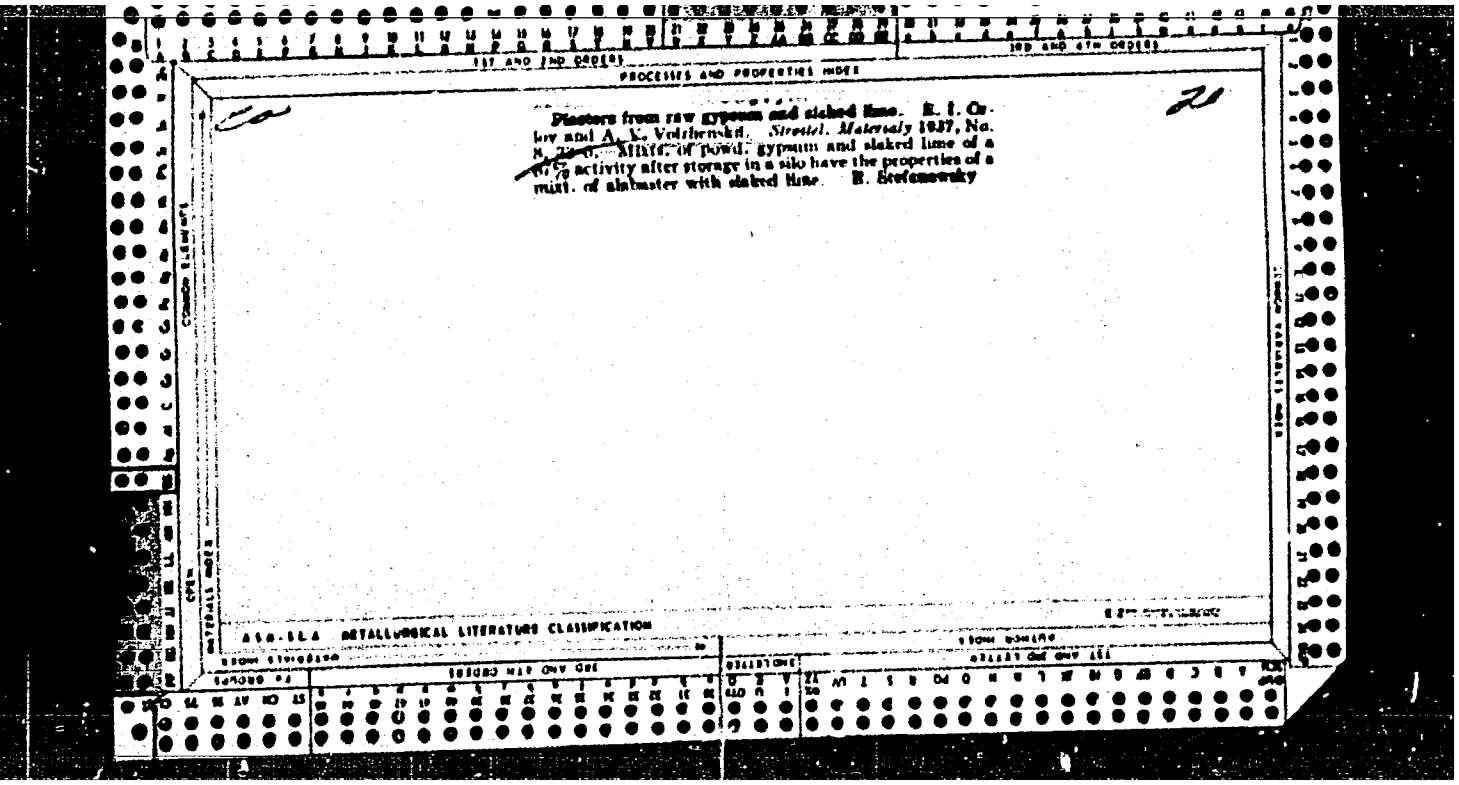


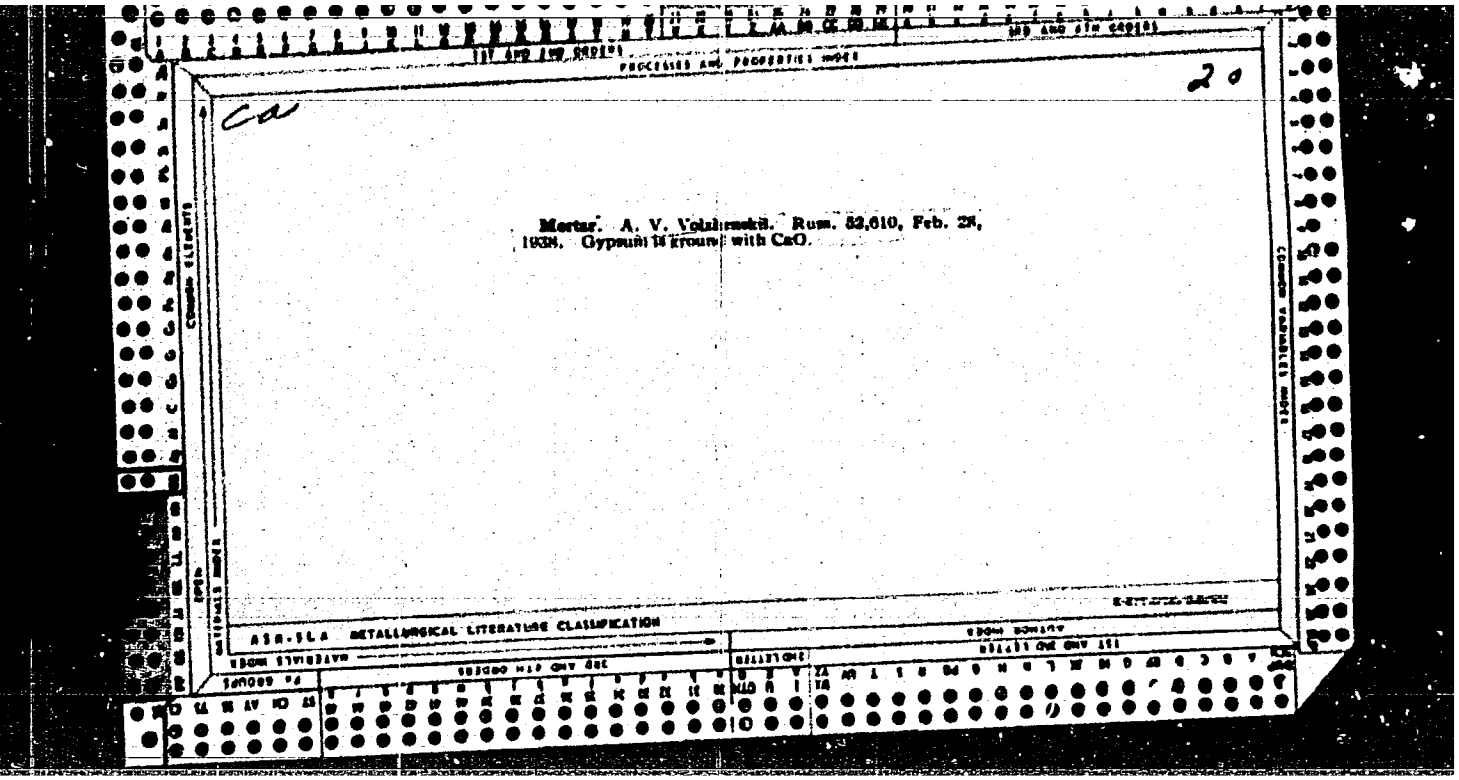
CA

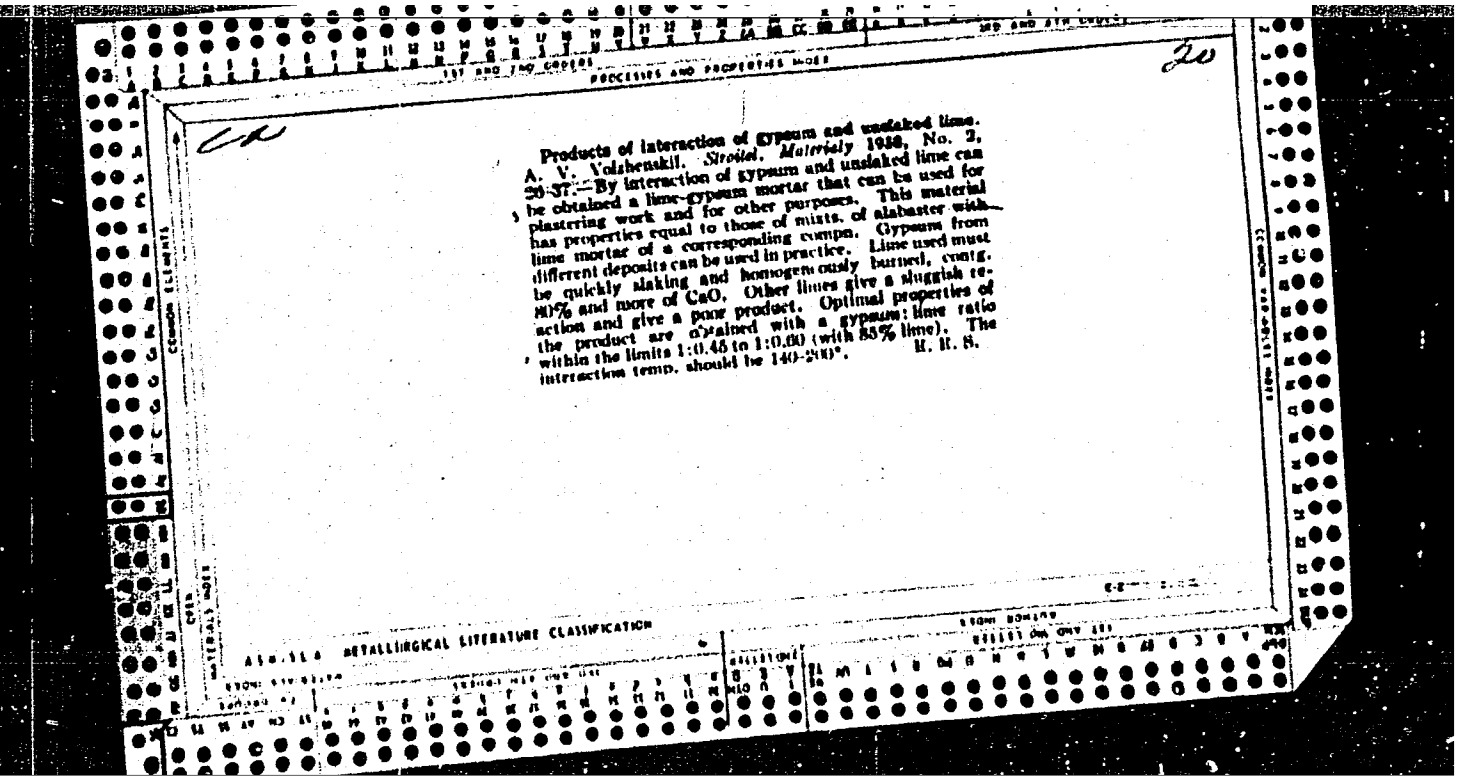
20

Estrich gypsum. A. V. Volzhenskii. *Stroitel. Materialy* 1937, No. 4-5, 87-9(1937); *Chem. Zentr.*, 1938, I, 404.—In view of the fact that to date practically no estrich gypsum has been produced in Russia, tests with 2 kinds of gypsum are described. With a CaO content of 33% and a SO_3 content of up to 46.8% together with a 4-6-hr. roasting period at 800-850°, a favorable setting time and satisfactory strength are obtained. M. G. Moore

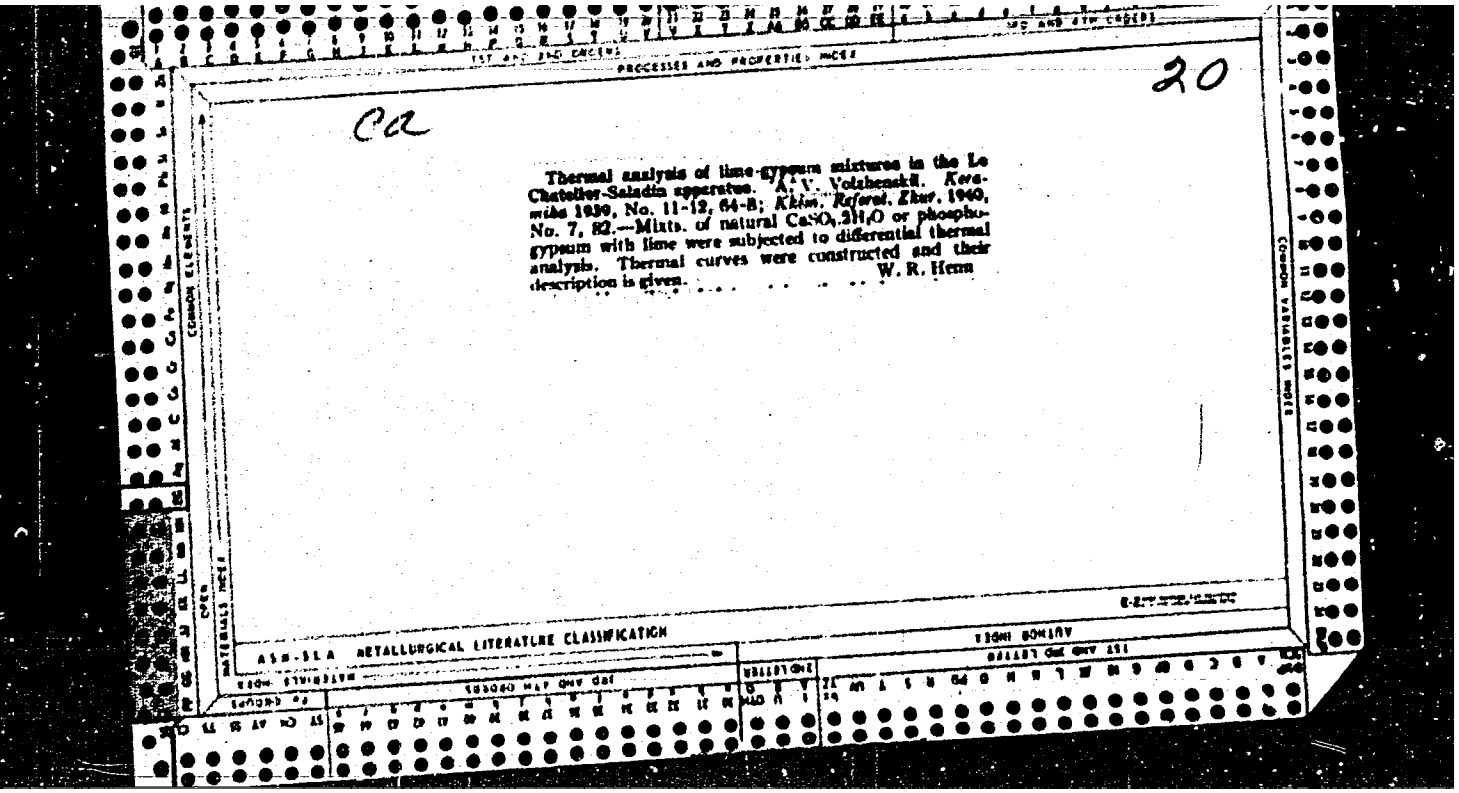








Products of interaction of gypsum and unslaked lime. A. V. Volzhenskii. *Stroitel. Materialy* 1938, No. 2, 36-37.—By interaction of gypsum and unslaked lime can be obtained a lime-gypsum mortar that can be used for plastering work and for other purposes. This material has properties equal to those of mixts. of alabaster with lime mortar of a corresponding compn. Gypsum from different deposits can be used in practice. Lime used must be quickly slaking and homogeneously burned, containing 80% and more of CaO. Other limes give a sluggish reaction and give a poor product. Optimal properties of the product are obtained with a gypsum:lime ratio within the limits 1:0.45 to 1:0.60 (with 85% lime). The interaction temp. should be 140-200°. H. H. S.



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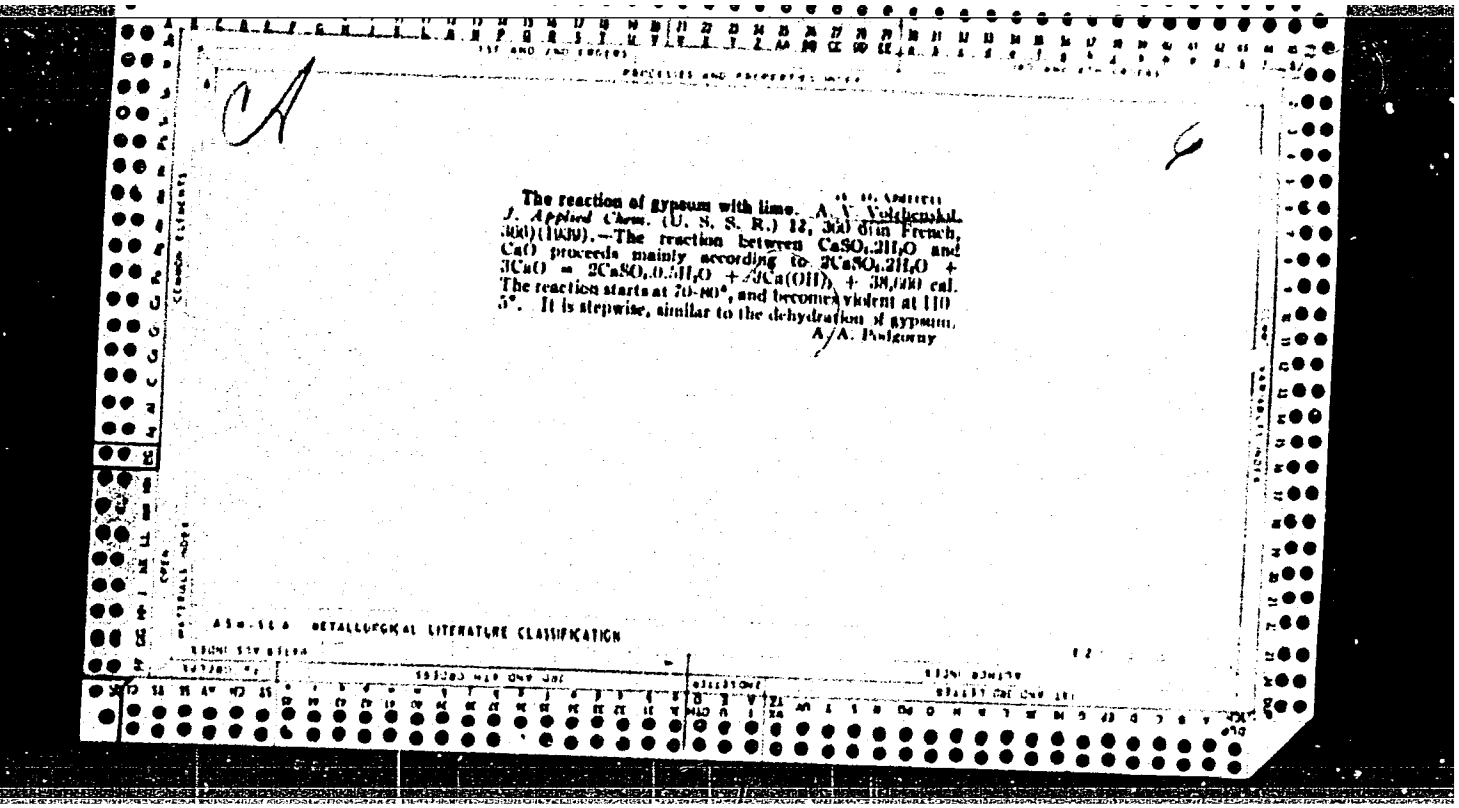
C2

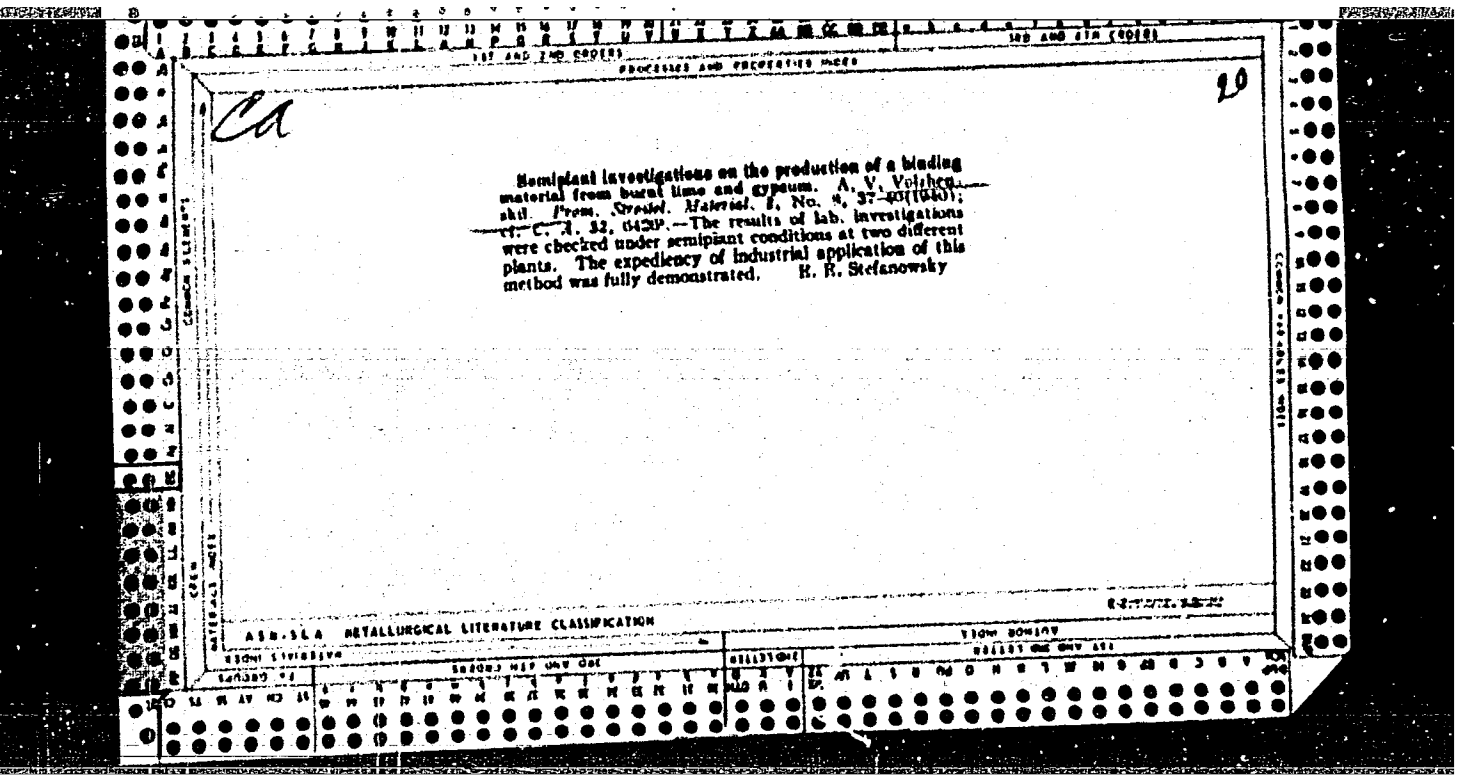
Thermal analysis of lime-gypsum mixtures in the Le Chatelier-Saladin apparatus. A. V. Volzhenskii. *Keramika* 1939, No. 11-12, 64-8; *Khim. Referat. Zhur.* 1940, No. 7, 82.—Mixts. of natural $CaSO_4.2H_2O$ or phosphogypsum with lime were subjected to differential thermal analysis. Thermal curves were constructed and their description is given. W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

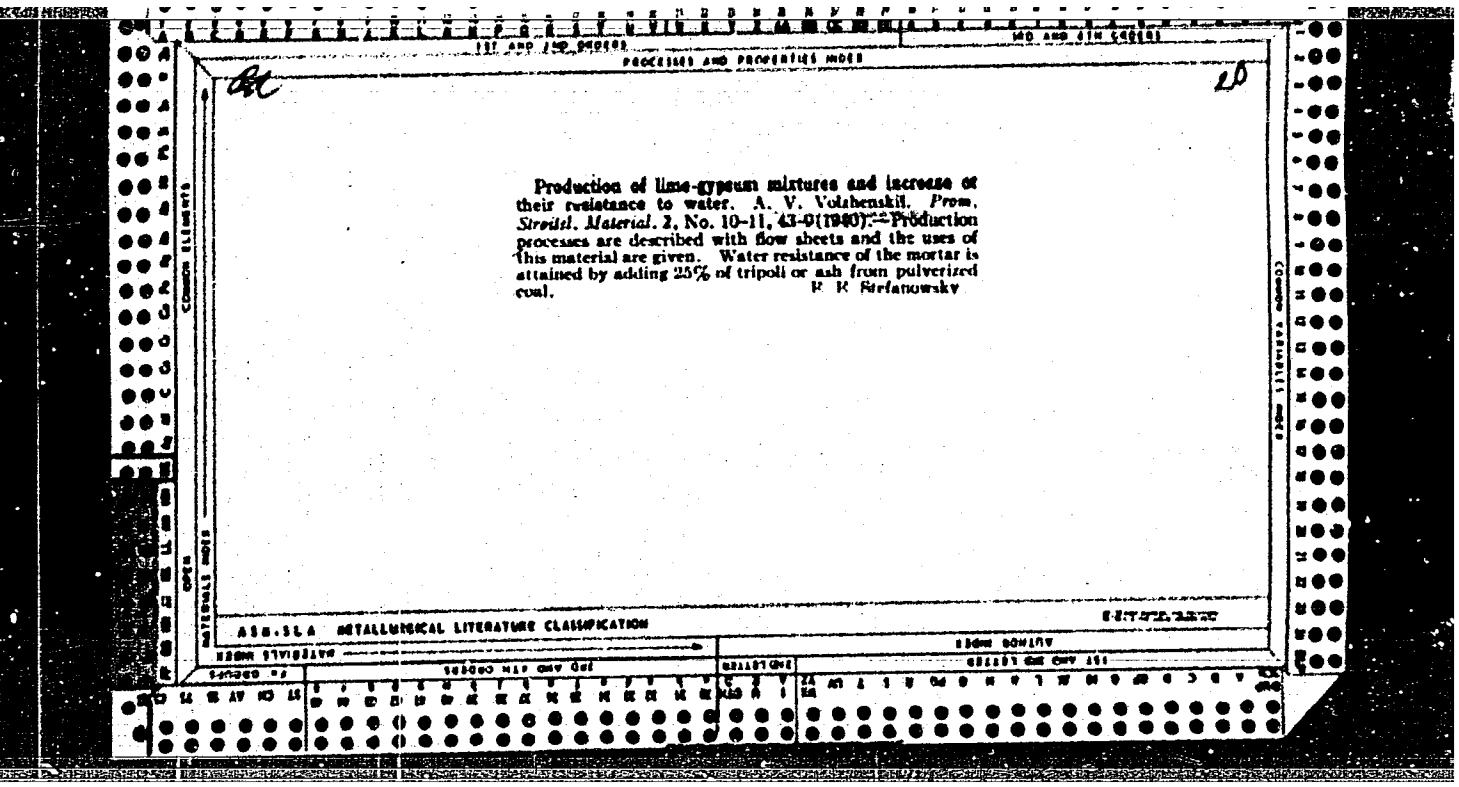


The reaction of gypsum with lime. A. V. Volzhenskii. *J. Applied Chem.* (U. S. S. R.) 12, 303 (in French, 303)(1939).—The reaction between $CaSO_4.2H_2O$ and CaO proceeds mainly according to $3CaSO_4.2H_2O + 3CaO = 2CaSO_4.0.5H_2O + 2Ca(OH)_2 + 38,000$ cal. The reaction starts at 70-80°, and becomes violent at 110-5°. It is stepwise, similar to the dehydration of gypsum.
A. A. Boigeny

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION

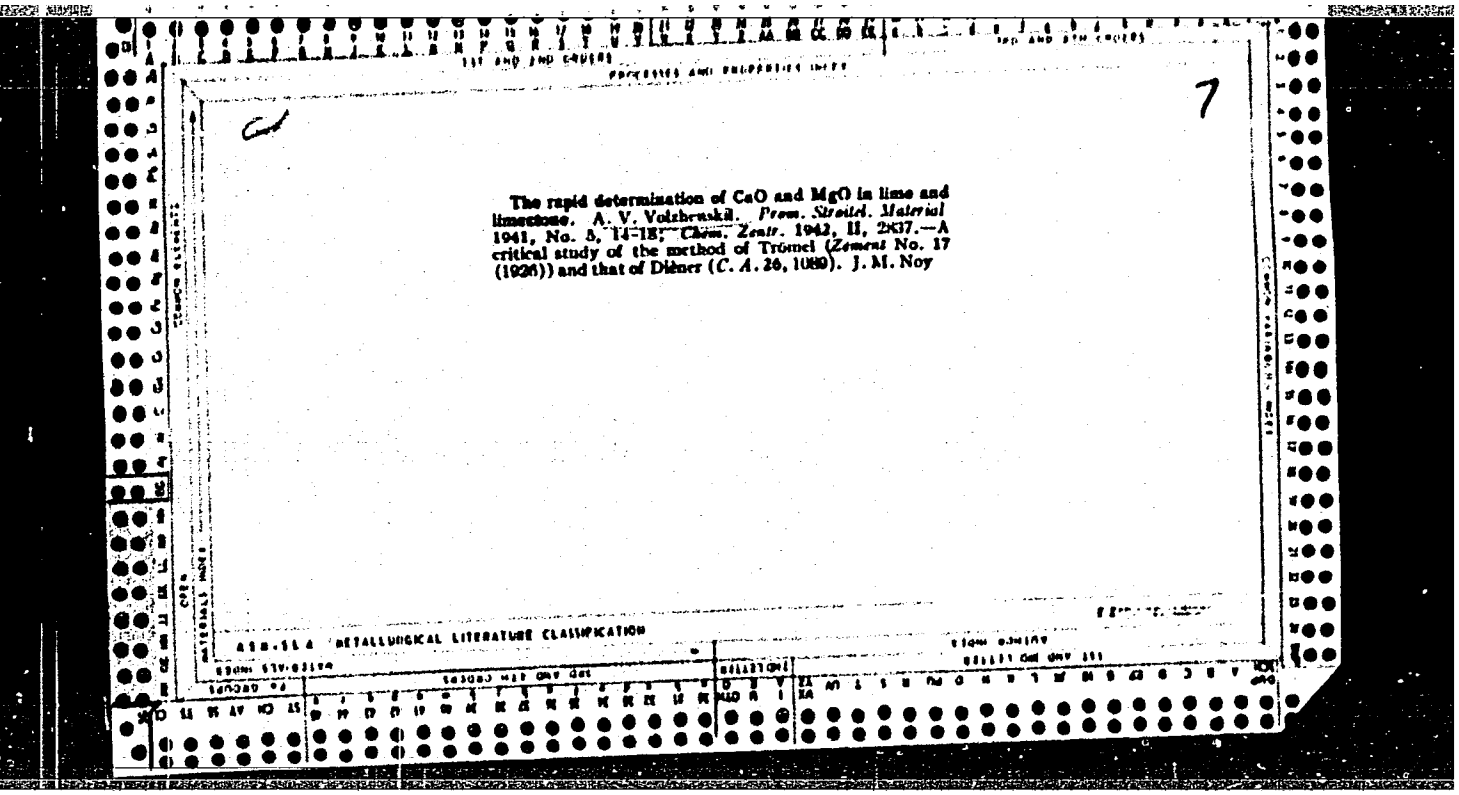


Semiplant investigations on the production of a binding material from burnt lime and gypsum. A. V. Volzhen-skii. *Prom. Stroitel. Materiał.* 8, No. 4, 37–40(1940); cf. C. A. 32, 6429⁹.—The results of lab. investigations were checked under semiplant conditions at two different plants. The expediency of industrial application of this method was fully demonstrated. R. R. Stefanowsky

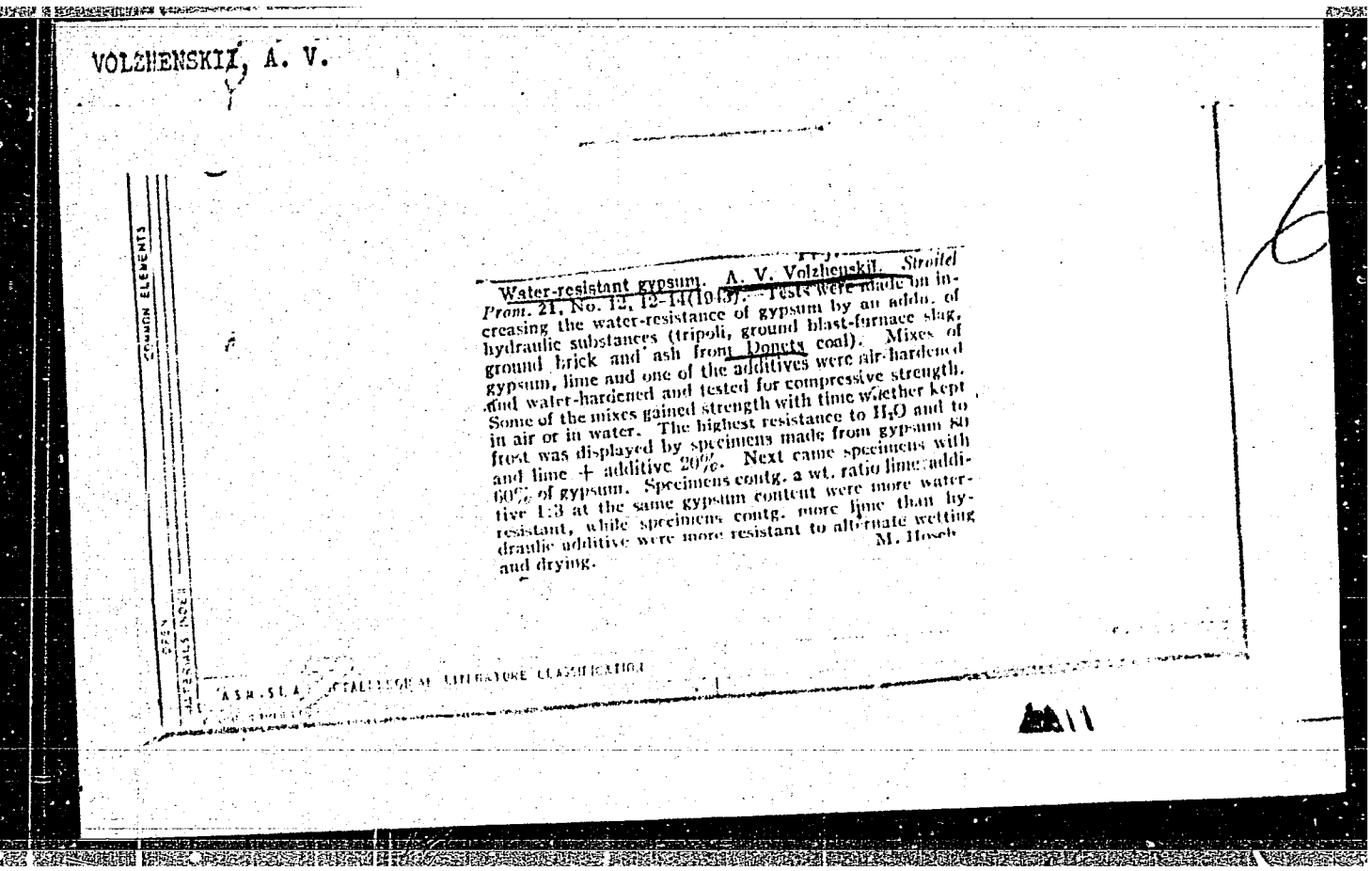


Production of lime-gypsum mixtures and increase of their resistance to water. A. V. Volzhenskii. *Prom. Stroitel. Material.* 2, No. 10–11, 43–9(1940).—Production processes are described with flow sheets and the uses of this material are given. Water resistance of the mortar is attained by adding 25% of tripoli or ash from pulverized coal.

R. R. Stefanowsky



The rapid determination of CaO and MgO in lime and limestone. A. V. Volzhenskii. *Prom. Stroitel. Material* 1941, No. 8, 14-18; *Chem. Zentr.* 1942, II, 2837.—A critical study of the method of Trömel (*Zement* No. 17 (1926)) and that of Diener (*C. A.* 26, 1089). J. M. Noy



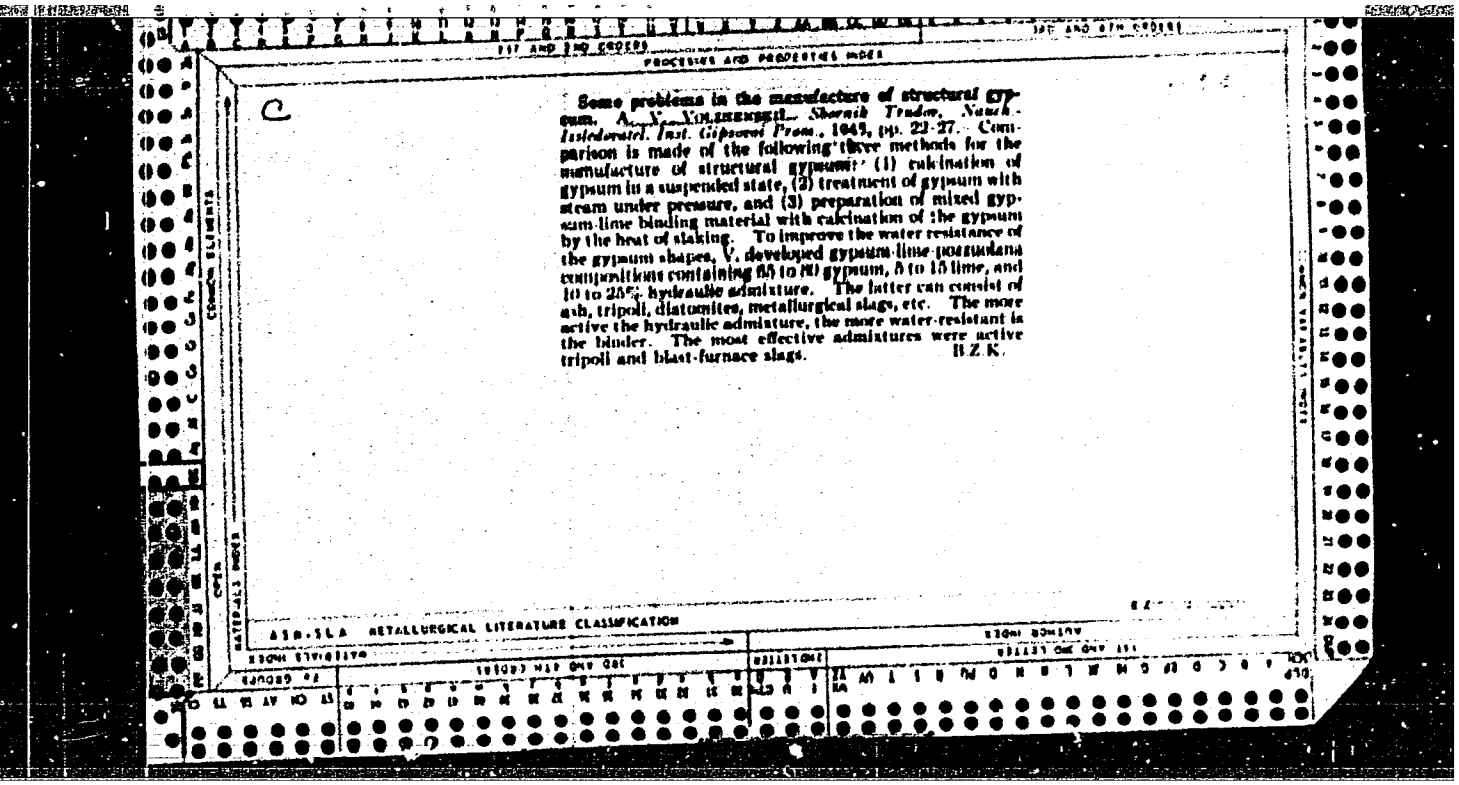
VOLZHENSKII, A. V.

Water-resistant gypsum. A. V. Volzhenskii. *Stroitel Prom.* 21, No. 12, 12-14(1943). Tests were made on increasing the water-resistance of gypsum by an addn. of hydraulic substances (tripoli, ground blast-furnace slag, ground brick and ash from Donets coal). Mixes of gypsum, lime and one of the additives were air-hardened and water-hardened and tested for compressive strength. Some of the mixes gained strength with time whether kept in air or in water. The highest resistance to H_2O and to frost was displayed by specimens made from gypsum 80 and lime + additive 20%. Next came specimens with 60% of gypsum. Specimens contg. a wt. ratio lime:additive 1:3 at the same gypsum content were more water-resistant, while specimens contg. more lime than hydraulic additive were more resistant to alternate wetting and drying.

M. Hosch

COMMON ELEMENTS

ASH.SLA... CATALOGUE OF LITERATURE CLASSIFICATION



Some problems in the manufacture of structural gypsum. A. V. Volzhenskii. *Sbornik Trudov, Nauch.-Issledovatel. Inst. Gipsovoi Prom.*, 1945, (9), 22-27. Comparison is made of the following three methods for the manufacture of structural gypsum: (1) calcination of gypsum in a suspended state, (2) treatment of gypsum with steam under pressure, and (3) preparation of mixed gypsum-lime binding material with calcination of the gypsum by the heat of slaking. To improve the water resistance of the gypsum shapes, V. developed gypsum-lime-pozzuolana compositions containing 65 to 80 gypsum, 5 to 15 lime, and 10 to 20% hydraulic admixture. The latter can consist of ash, tripoli, diatomites, metallurgical slags, etc. The more active the hydraulic admixture, the more water-resistant is the binder. The most effective admixtures were active tripoli and blast-furnace slags. B Z K.

VOLZHENSKIY, A. V.

VOLZHENSKIY, A. V. and KISLYAKOV, L. A. "Gypsum materials and goods for constructing high buildings", Mest. stroit. materialy, 1948, Issue 6, p. 22-26.

SO: U-3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 7 ,949).

Volgushkin, A.V.,

32441. Gaysinskiy, I. Ye., i Abashkina, B. F. Vliyaniye obrabotki na begunakh tsementykh rastvorov i betonov na skorost' ikh tverdeniya. Materialy i konstruktsii v sovr. arkhitekture, No. 3, 1949, s. 100-07.

SO: Letopis' Zhurnal'nykh Statey Vol. 44

IVANOV, I.T., kandidat tekhnicheskikh nauk, otvetstvennyy redaktor; ANTONOV, K.K., redaktor; VOLZHENSKIY, A.V., redaktor; GORNOV, V.N., redaktor; KUZNETSOV, G.F., redaktor; PEYZNER, I.V., inzhener, redaktor; ROTERT, P.P.; FRIDBERG, G.V., redaktor; PECHKOVSKAYA, T.V., tekhnicheskiy redaktor

[Skyscraper designs; experience in design and construction] Konstruktsii vysotnykh zdanii; iz opyta proektirovaniia i vozvedeniia. Red. kollegiia I.T.Ivanov, K.K.Antonov, A.V.Volzhenskii i dr. Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1952. 103 p. (MLRA 7:10) [Microfilm]

1. Chlen-korrespondent Akademii arkhitektury SSSR (for Antonov, Volzhenskiy, Gornov, Kuznetsov, Rotert) 2. Akademiya arkhitektury SSSR, Moscow. Institut stroitel'noy tekhniki.
(Skyscrapers)
(Architecture--Designs and plans)

VOLZHENSKIY, A., Prof.; KOGAN, G., Eng.

Plaster of Paris

Use of large panels made of plaster of Paris and concrete for partitions. Biul. stroi. tekh. 10, No. 5, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

1. VOLZHENSKIY, A. Prof., KOGAN, G. Eng.

2. USSR (600)

4. Concrete Blocks

7. Use of large panels made of plaster of Paris and concrete for partitions, Piul. stroi. tekh. 10 No. 6, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

VOLZHENSKIY, A.V., professor, chlen-korrespondent.

On heat insulating materials for reinforced concrete wall panels. Biul. stroi.tekh. 10 no.10:23-25 My '53. (MLRA 6:8)

1. Akademiya arkhitektury SSSR.
(Insulation (Heat)) (Reinforced concrete construction)

VOLZHENSKIY, A.V., professor; KISLYAKOV, L.A., kandidat tekhnicheskikh nauk; TEMKIN, L.Ye., inzhener, nauchnyy redaktor; ROSTOVTSEVA, M.P., redaktor; PERSON, M.N., tekhnicheskiy redaktor

[Production of hollow reinforced-concrete beams and panels for ceilings and floors] Proizvodstvo zhelezobetonnykh pustotelykh balok-nastilov i panelei perekrytii. Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1954. 60 p. (MLRA 7:10)

1. Chlen-korrespondent Akademii arkhitektury SSSR (for Volzhenskiy) (Girders) (Precast concrete construction) (Floors, Concrete)

VOLZHENSKIY, A.V., professor, doktor tekhnicheskikh nauk; KOGAN, G.S., kandidat tekhnicheskikh nauk; ARBUZOV, N.T., kandidat tekhnicheskikh nauk; SOROKER, V.I., kandidat tekhnicheskikh nauk, redaktor; GIMPEL'SON, A.Z., redaktor; LYUDKOVSKAYA, N.I., tekhnicheskiy redaktor

[Gypsum-concrete panels for partitions and inner lining of outside walls] Gipsobetonnye paneli dlia peregorodok i vnutrennei oblitsovki naruzhnykh sten. Moskva, Gos. izd-vo lit-ry po stroitel'nym materialam, 1955. 184 p. (MLRA 9:7)

1. Chlen-korrespondent Akademii arkhitektury SSSR (for Volzhenskii)
(Concrete slabs)

VOLZHENSKIY,A., professor; IVANNIKOVA,R., inzhener

Gypsum cement and gypsum slag binding materials. Stroi. mat. izdel. i konstr. 1 no.4:13-16 Ap'55. (MLRA 8:10)

1. Chlen-korrespondent Akademii arkhitektury SSSR (for Volzhenskiy)

(Gypsum) (Building materials)

VOLZHENSKIY, A.V., professor; KOGAN, G.S., inzhener.

Making large gypsum concrete panel wall slabs on stands having tilting platforms. Rats. i izobr.predl. v strei. no.121:3-11 '55.(MIRA 9:7)
(Walls) (Concrete slabs)

VOLOZHENSKIY, A.V., professor, redaktor; SHVARTSZAYD, M.S., kandidat tekhnicheskiy nauk, redaktor; IVANOV, O.M., kandidat tekhnicheskikh nauk, nauchnyy redaktor; TUMARKIN, D.M., inzhener, redaktor izdatel'stva; VOLKOV, V.S., tekhnicheskiy redaktor; MEL'NICHENKO, F.P., tekhnicheskiy redaktor

[Autoclave materials and articles; a collection of articles] Avtoklavnye materialy i izdeliia; sbornik statei. Pod red. A.V. Volzhenskogo i M.S.Shvartszaida. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1956. 125 p. (MLRA 9:7)

1. Akademiya arkhitektury SSSR, Moscow. 2. Chlen-korrespondent Akademii arkhitektury SSSR (for Volzhenskiy)
(Autoclaves)

VOLZHENSKIY, A.V.

Using the autoclave method in the production of building materials, products, and structural components. Mat. issl. v pom. proekt. i stroi. Kar. Kan. no.2:9-20 '56. (MIRA 11:4)
(Building materials) (Autoclaves)

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10, p 159 (USSR) 15-57-10-14334

AUTHORS: Volzhenskiy, A. V., Shvartszayd, M. S., Ivanov, V. I.

TITLE: Autoclave-Treated Structural Products and Details of the Kara-Kum Sands (Avtoklavnyye stroitel'nyye izdeliya i detali iz karakumskikh peskov)

PERIODICAL: V sb.: Materialy issledovaniy v pomoshch' proektir. i str-vu Karakumsk. kanala, Nr 2, Ashkhabad, AN Turkm SSR, 1956, pp 27-66

ABSTRACT: The Kara-Kum sands contain 77 to 83 percent silica and 7 to 13 percent sesquioxides. They are very fine-grained (dominant grain diameter of 0.15 mm to 1.3 mm). After partial regrinding of this sand, milling it together with slaked lime, and submitting it to special autoclave treatment, it may be used both for cellular (foamy silicate) and dense silicate materials and products. It may also be used to make silicate bricks meeting GOST (All-Union State Standard) requirements.

V. P. Yeremeyev

Card 1/1

VOLZHENSKIY, A.V.

USSR/Chemical Technology - Chemical Products and Their Applications - Silicates. Glass. Ceramics. Binders. I-10

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 9084

Author : Volzhenskiy, A.V., and Burov, Yu.S.
Inst :
Title : The Application of Autoclave Treatment in the Preparation of Aggregate Concrete and Reinforced Concrete.

Orig Pub : Beton i zhelezobeton, 1956, No 8, 277-280

Abstract : The properties of autoclave-hardened concrete and of concrete hardened under normal conditions are described. The concrete was prepared from six cements of varying mineral composition. Autoclave treatment considerably increases the hardening rate of concrete and

Card 1/

USSR/Chemical Technology - Chemical Products and Their Applications - Silicates. Glass. Ceramics. Binders. I-10

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 9084

makes it possible to obtain a concrete which after steaming has a strength equal to the R_{28} [TN: crushing strength?; see translation abstract 9069] of normally hardened concrete. The substitution of a part of the cement with finely ground sand markedly increases the strength of the steamed concrete. When a charge of 170-250 kg/m^3 of cement clinker is used, the strength of the concrete can be increased 30-70% by the addition of finely ground sand or, alternately, 50% of the clinker may be substituted with finely ground sand without a reduction in the strength of the concrete. By the application

Card 2/

USSR/Chemical Technology - Chemical Products and Their Applications - Silicates. Glass. Ceramics. Binders. I-10

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 9084

of autoclave hardening, it is possible to obtain from fine-grained Karakum sand a concrete which has a strength exceeding by a factor of 1.5 - 2 that of normally hardened concrete. Autoclave treatment is particularly effective in the case of concretes prepared from beletic and mixed cements as well as concretes prepared from waste metallurgical slags and from ashes. After autoclave hardening concretes prepared from mixed bonds (50% ground quick-lime and 50% ground sand) have a strength equal to 100-160% that of normally hardened concrete prepared with the expenditure of an equal amount of cement clinker. Finely ground lime-sand concretes prepared from a mixed bond charge

Card 3/4

USSR/Chemical Technology - Chemical Products and Their Applications - Silicates. Glass. Ceramics. Binders. I-10

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 9084

of 400-500 kg/m^3 (ground quicklime and ground sand in the ratio 1 : 1) after autoclave hardening have the same strength as normally hardened concrete cements prepared from portland cement charges of 300-400 kg/m^3. Autoclave-hardened concretes prepared from ground quicklime have withstood over 100 cycles of alternate freezing and thawing; similar concretes prepared from hydrated lime were destroyed after 15-25 cycles. Best results are obtained from an economic point of view when the articles are held at maximum temperature and a pressure of 8-15 atm for 4 - 8 hours.

Card 4/4

VOLZHENSKIY, A., doktor tekhnicheskikh nauk; BUROV, Yu., kandidat tekhnicheskikh nauk.

Using waste slags and ashes as binding materials for autoclave products. Stroi.mat. 3 no.1:34-35 Ja '57. (MLRA 10:3)
(Building materials)

VOLZHENSKIY, A.V., professor; POPOV, L.N., inzhener.

Highly resistant autoclave treated concrete for mine building. (MLRA 10:9)
Shakht. stroi. no.8:23-24 Ag '57.
(Precast concrete construction)
(Autoclaves)

VOLZHENSKIY, A.V.

VOLZHENSKIY, A.V., prof.; MOCHALOV, A.I., inzh.; BUROV, Yu.S., kand. tekhn.nauk; SILAYENKOV, Ye.S., inzh.

Autoclaved concrete made with metallurgical slag and ash binders. Bet. i zhel.-bet. no.8:322-325 Ag '57. (MIRA 10:10)

1.Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury (for Volzhenskiy)

(Concrete)

VOLZHENSKIY, A.V., prof., doktor tekhn.nauk, red.; GUROV, Yu.S., red.izd-va; BOROVNEV, N.K., tekhn.red.

[Properties of autoclave concretes and products made from them; collected articles] Svoistva avtoklavnykh betonov i izdelii iz nikh; sbornik statei. Pod red. A.V.Volzhenskogo. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1958. (MIRA 11:6)
167 p.

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut novykh stroitel'nykh materialov, otdelki i oborudovaniia zdanii. 2. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy)
(Concrete)

VOLZHENSKIY, A.V., prof., doktor tekhn.nauk

New possibilities for making autoclave hardened building products.
Nauch.dokl.vys.shkoly; stroi. no.1:150-157 '58. (MIRA 12:1)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR.
2. Rekomendovana kafedroy tekhnologii vyazhushchikh, betonov i keramiki Moskovskogo inzhenerno-stroitel'nogo instituta imeni V.V. Kuybysheva.
(Autoclaves) (Concrete)

VOLZHENSKIY, A.V., prof.; POPOV, L.N., inzh.

Using mixed fine ground portland cements in preparing concretes. (MIRA 11:3)
Bet. i zhel.-bet. no.3:88-93 Mr '58.

1. Deystvitel'nyy chlen Akademii stroitel'stva arkhitektury SSSR (for Volzhenskiy).

(Concrete)

V.

VOLZHENSKIY, A., doktor tekhn.nauk; SILAYENKOV, Ye., inzh.

Behavior of steel reinforcements in slag-sand concrete products. Stroi.mat. 4 no.10:30-31 O '58. (MIRA 11:11)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR. (for Volzhenskiy).

(Reinforced concrete)

SOV/97-58-10-2/17

AUTHORS: Volzhenskiy, A.V., Member of ASiA SSSR, Professor; and Stambulko, V.I., Engineer

TITLE: Gypsum-Cement-Polluolana Binding Materials and Concretes Based on them (Gipsotsementnoputstsolanovyye vyazhushchiye veshchestva i betony na ikh osnove)

PERIODICAL: Beton i zhelezobeton, 1958, Nr 10, pp 363-367 (USSR)

ABSTRACT: Investigations carried out show that a combination of gypsum, portland cement and hydraulic additives (tripoli, waste aluminium sulphate and various acid concentrates obtained by burning fuels) can be used to obtain rapid-hardening hydraulic binding materials. A minimum content of 20-25% of cement is used with gypsum containing 60-50% of water and 20-25% of active hydraulic additive. The amount of this additive should be strictly controlled so that the concentration of calcium oxide in aqueous solution does not exceed 0.7-0.9 g/l during the first 2-7 days of hydration. Gypsum-concrete-pozzuolana binders using quantities of 300-400 kg/m3 give rapid-hardening, water-stable concretes marks 75-150, and plasters marks 25-75. The combination of these materials was worked out in MISI imeni V.V. Kuybyshev.

Card 1/4

Gypsum-Cement-Pozzuolana Binding Materials and Concretes Based on them

Nr. 104 Trust in Leningrad is manufacturing panels based on hydro-cement binders. Glavmosstroy, together with ASiA SSSR and MISI, are preparing for the manufacture of partition panels based on the above materials. Trials with these materials have not all been successful; where the products were not satisfactory the cause was usually due to the formation of complex salts in hardened concrete, as, for example, $3CaO.Al_2O_3.3CaSO_4.31H_2O$. It is assumed that the formation of this salt from calcium aluminate and gypsum is simultaneous with an absolute volume increase (2.2) of the solid phase, which brings about strong tensions in cement resulting in collapse of the construction. Formation of hydro-sulpho-aluminate of calcium in concrete was studied by Lafuma (Ref 2), V.N. Yung (Ref 3), P.P. Budnikov (Ref 4), V.M. Moskvin (Ref 5) and others. A high concentration of calcium hydroxide in aqueous solution is responsible for the formation of $3CaO.Al_2O_3.Ca(OH)_2.nH_2O$ during the phase of hardening of cement. The results of the tests lead us to assume that the compounds have considerable

Gypsum-Cement-Pozzuolana Binding Materials and Concretes Based on them

resistance against the action of sulphides of sodium and calcium, and partial resistance against magnesium. The problem of obtaining hydraulic gypsum-cement-pozzuolana binders with a predominant gypsum content was studied in MISI by A.V. Volzhenskiy and R.V. Ivannikova, and further investigated by the au hors of this article. The authors assume that active hydraulic additives introduced in proper quantities in the system gypsum + portland cement + water, or gypsum + granulated blast furnace slag + water, fulfil two basic functions: (1) they lower the concentration of calcium hydroxide in aqueous solution, and (2) they bind sulphates and calcium aluminate and form complex compounds. Table 1 gives results of investigations defining the effect of the composition and activity of cements and tripoli on the physical and mechanical properties of binders. Table 2 shows that increased content of tripoli favourably influences the properties of these materials. Fig 1 shows graphically changes of concentration of CaO in aqueous solution of gypsum, portland cement and

Gypsum-Cement-Pozzuolana Binding Materials and Concretes Based on them

hydraulic additives. The graph in Fig 2 shows changes of strengths of concrete with time and varying content of gypsum-cement binders.
There are 2 figures, 2 tables and 12 references, of which 6 are Soviet, 1 Swedish, 2 English, 2 French and 1 German.

VOLZHENSKIY, A.V., doktor tekhn. nauk; KOGAN, G.S., kand. tekhn. nauk; TSUKANOV, Yu.S.,

[Gypsum-cement-puzzuolanic binding materials and concretes on their base] Gipsotsementnoputstsolanov viazhushchie veshchestva i betony na ikh osnove. Riazan', Riazanskaia kompleksnaia nauchno-issl. stantsiia-laboratoriia po sel'skomu stroitel'stvu NIISZ AS i SSSR, 1961. 48 p. (MIRA 17:8)

VOLZHENSKIY, A.V.; GLADKIKH, K.V.

Binders made of granulated fuel slags. Nauch.dokl.vys.shkoly; stroi. no.1:171-178 '59. (MIRA 12:10)

1. Rekomendovana kafedroy tekhnologii vyazhushchikh betonov i keramiki Moskovskogo inzhenerno-stroitel'nogo instituta imeni V.V.Kuybysheva.
(Binding materials) (Slags)

VOLZHENSKIY, A.V.; SILAYENKOV, Ye.S., inzh.

Deformation of fine grained autoclave hardened concretes caused by the change of their moisture content. Bet. i zhel.-bet. no.4:175-179 Ap '59. (MIRA 12:6)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).
(Concrete--Testing)

VOLZHENSKIY, A.V., prof.; SYSOYEV, V.V., inzh.

Effect of various admixtures and autoclave processes on the activity of blast-furnace waste slags. Stroi. mat. 5 no.5: 27-29 My '59. (MIRA 12:8

1.Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury (for Volzhenskiy).
(Slag--Testing)

VOLZHENSKIY, A.V.; STAMBULKO, V.I.

Gypsum-cement and gypsum-slag binding materials with waterproofing additives. Trudy NIIZHB no.10:57-79 '59. (MIRA 13:3)

(Binding materials) (Waterproofing)

VOLZHENSKIY, A.V., prof., doktor tekhn.nauk

Relation of structure and quality of cement stone to its formation and hardening. Stroi.mat. 10 no.4:10-13 Ap '64. (MIRA 17:5)

VOLZHENSKIY, A.V., prof., doktor tekhn. nauk; PECHURO, S.S.

Requirements of industrial construction and the gypsum industry. Stroi. mat. 10 no.1:15-18 Ja'64. (MIRA 17:5)

1. Glavnyy spetsialist Gosudarstvennogo instituta po proyektirovaniyu predpriyatiy promyshlennosti stroitel'nykh materialov (for Pechuro).

VOLZHENSKIY, A.V., prof.; TIRANOVA, T.M., inzh.

Clinkerless binding materials made out of phosphoric slag.
Stroi. mat. 9 no.6:31-33 Je '63. (MIRA 17:8)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).

L 27102-66 EWT(m)

ACC NR: AP6017414 SOURCE CODE: UR/0097/65/000/010/0033/0035

AUTHOR: Volzhenskiy, A. V. (Doctor of technical sciences; Professor); Stambulko, V. I. (Candidate of technical sciences); Aradovskiy, Ya. L. (Engineer)

ORG: none

TITLE: Gypsum-cement-pozzolana concrete for panel-type retaining structures

SOURCE: Beton i zhelezobeton, no. 10, 1965, 33-35

TOPIC TAGS: concrete, tensile strength, elastic modulus

ABSTRACT: Rigid gypsum-cement-pozzolana concrete can be used for making panel-type retaining structures since it satisfied the requirements of Construction Specifications and Regulations. About 360-450 kg of binding material is used per m^3 of concrete in producing heavy GCP concretes (grades 150 and 200). Clay-filled concrete and mortar of grades 150 and higher requires 420-550 kg of GCP binder per cubic meter of concrete. Tests show a continuous increase in the strength of all specimens with time. In one year a strength increase of 25-30% over the 28-day strength was observed. Prismatic specimens of GCP concrete show a somewhat greater strength than that stipulated by Construction Specifications and Regulations. The prismatic tensile strength meets the construction requirements. A study of the deformative properties of rigid GCP concretes under momentary loading shows that maximum compressibility is equal to that of ordinary concrete,

Card 1/2 UDC: 666.944.001.5:69.022.4

L 27102-66

ACC NR: AP6017414 O

being $0.7 \cdot 10^{-3}$, $1.2 \cdot 10^{-3}$ and $1.0 \cdot 10^{-3}$ for heavy and light concretes and mortar based on GCP binding material, respectively. The modulus of elasticity under compression is $(3.1-3.5) \cdot 10^5$ kg/cm^2 for heavy GCP concretes, $(1.3-1.48) \cdot 10^5$ kg/cm^2 for clay-filled concrete and $(1.8-2.4) \cdot 10^5$ kg/cm^2 for mortar, which meets the requirements of Construction Specifications and Regulations. The paper was written in support of Engineer Ya. L. Aradovskiy's thesis.

Orig. art. has: 3 figures and 4 tables. [JPRS]

SUB CODE: 11, 20 / SUBM DATE: none

Card 2/2

L 46601-66 EWT(m)
ACC NR: AP6012177 (A) SOURCE CODE: UR/0413/66/000/007/0116/0116

INVENTOR: Volzhenskiy, A. V.; Kogan, G. S.; Tsuranov, L. M.

ORG: none

TITLE: Light-weight concrete. Class 80, No. 180514 [announced by the All-Union Scientific Research Institute of New Construction Materials, Academy of Construction and Architecture, SSSR (Vsesoyuznyy nauchno-issledovatel'skiy institut novykh stroitel'nykh materialov akademii stroitel'stva i arkhitektury SSSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 7, 1966, 116

TOPIC TAGS: concrete, ~~light weight concrete,~~ construction material

ABSTRACT: An Author Certificate has been issued for light-weight concrete with a gypsum-cement binder and a porous mineral filler. In order to have the filler serve as the active hydraulic additive, a porous clay filler in a mixture with a binder containing 75—80% construction gypsum and 20—25% portland cement is suggested as the filler. [LD]

SUB CODE: 11/ SUBM DATE: 21Jan63/

Card 1/1 afs UDC: 666.973.022.2

GERSHBERG, Osip Abramovich, prof., doktor tekhn. nauk, laureat Gosudarstvennoy premii; VOLZHENSKIY, A.V., prof., retsenzent; SIZOV, V.N., prof., doktor tekhn. nauk, retsenzent; IVANOV, F.M., kand. tekhn. nauk, nauchn. red.

[Technology of concrete and reinforced concrete products] Tekhnologiia betonnykh i zhelezobetonnykh izdelii. Moskva, Stroiizdat, 1965. 326 p. (MIRA 18:8)

1. Rukovoditel' kafedry "Tekhnologiya vyazhushchikh veshchestv i betonov" Moskovskogo inzhenerno-stroitel'nogo instituta im. V.V.Kuybysheva (for Volzhenskiy). 2. Rukovoditel' kafedry "Stroitel'nyye materialy i izdeliya" Vsesoyuznogo zaochnogo politekhnicheskogo instituta (for Sizov).

VOLZHENSKIY, A.V., prof., d ktor tekhn.nauk; GLADKIKH, K.V., dotsent, kand. tekhn.nauk

Some ways of improving cellular concrete products. Stroi.mat. 10 no.12:26-28 D '64. (MIRA 18:1)

VOLZHENSKIY, Aleksandr Vasil'yevich, Laureat Leninskoy premii, doktor tekhn. nauk, prof.; BUROV, Yuriy Sergeyevich, kand. tekhn. nauk; VINOGRADOV, Boris Nikolayevich; GLADKIKH, Klara Vasil'yevna, kand. tekhn. nauk; NIKOLAYEVA, N.M., red.izd-va; SHERSTNEVA, N.V., tekhn. red.

[Concretes and products based on slag and ash cements; hardened in steam chambers and autoclaves] Betony i izdeliia na shlakovykh i zol'nykh tsementakh; pri tverdenii v proparochnykh kamerakh i avtoklavakh. Pod obshchei red. A.V. Volzhenskogo. Moskva, Gosstroiizdat, 1963. 361 p. (MIRA 16:12)

(Precast concrete)

VOLZHENSKIY, A.V., prof., zasluzhennyy deyatel' nauki i tekhniki RSFSR; IL'YENKO, I.A., inzh.; VINOGRADOV, B.N., inzh.

Deformation and strength properties of concretes made with binding materials based on fuel granulated slags. Bet. i zhel.-bet. 8 no.12:549-553 D '62. (MIRA 16:2)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).
(Concrete—Testing)
(Slag)

BUDNIKOV, P.P.; ALEKPEROV, M.S.; BAKLANOV, G.M.; BOLDYREV, A.S.; BOS'KO, K.D.; VOLZHENSKIY, A.V.; GROKHOTOV, N.V.; ZHUKOV, A.V.; ZABAR, L.B.; KITAYEV, Ye.M.; KOSHKIN, V.G.; KRUPIN, A.A.; MUROMSKIY, P.G.; POPOV, A.N.; SUKHOTSKIY, S.F.; USPENSKIY, V.V.; KHINT, I.A.; SHVAGIREV, M.P.; YUSHKEVICH, M.O.

Conference on increasing the durability of corrugated roofing sheets. Stroi.mat. 8 no.1:p.3 of cover Ja '62. (MIRA 15:5)
(Roofing)

VOLZHENSKIY, A.V., laureat Leninskoy premii, prof., doktor tekhn.nauk; VOROB'YEV, I.A.; GLADKIKH, K.V., inzh.; VINOGRADOV, B.N., inzh.; IL'YENKO, I.A., inzh.

Use of binding materials made of granulated fuel slag for the manufacture of wall materials. Stroi. mat. 8 no.5:5-8 My '62. (MIRA 15:7)

1. Direktor zavoda stenovykh blokov No.21 Glavnogo upravleniya promyshlennosti stroitel'nykh materialov pri ispolnitel'nom komitete Moskovskogo gorodskogo Soveta deputatov trudyashchikhsya (for Vorob'yev).

(Slag)
(Building materials)

VOLZHENSKIY, A.V., laureat Leninskoy premii, prof.; GLADKIKH, K.V., inzh.; CHEN'-KHUA-IN [Ch'ên-Hua-ying] inzh.

Air-entrained slag concretes obtained by thermal treatment in steam chambers. Stroi. mat. 8 no.6:16-19 Je '62. (MIRA 15:7)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).

(Lightweight concrete)
(Slag) (Autoclaves)

VOLZHENSKIY, A.V., doktor tekhn.nauk, prof.; GLADKIKH, K.V., inzh.; VINOGRADOV, B.N.

Hardening of binding materials based on granulated fuel slags. Sbor. trud. VNIINSM no.2:52-74 '60. (MIRA 15:1)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).

(Slag)
(Binding materials)

VOLZHENSKIY, A.V., prof., zasluzhennyy deyatel' nauki i tekhniki RSFSR;
IL'YENKO, I.A., aspirant

Heavy and light concretes with cinders of gramulated clinkers.
Stroi.mat. 8 no.1:31-35 Ja '62. (MIRA 15:5)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).

(Concrete)

VOLZHENSKIY, A.V., prof.

Organization of the production of building elements based on gypsum-cement-pozzolan binding materials. Stroi.mat. 8 no.3:17-18 Mr '62. (MIRA 15:8)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR.

(Building materials industry)

VOLZHENSKIY, A.V., prof.; FERRONSKAYA, A.V., inzh.

Cellular concretes with gypsum-cement-pozzolan binders. Bet. i zhelezobet. no. 3:123-126 Mr '61. (MIRA 14:5)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR.
(Lightweight concrete)

VOLZHENSKIY, A.V., prof.; VINOGRADOV, B.N., inzh.

Composition of overburned lime and causes of overburning. Stroi. mat. 7 no.6:30-32 Je '61. (MIRA 14:7)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).

(Lime)

S/081/61/000/021/056/094
B110/B101

AUTHORS: Volzhenskiy, A. V., Ferronskaya, A. V.

TITLE: Honeycomb concretes on the basis of gypsum-cement-puzzolano binders

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1961, 314, abstract 21K329 (Beton i zhelezobeton, no. 3, 1961, 123-126)

TEXT: The physical and mechanical properties of honeycomb concretes on the basis of gypsum-cement-puzzolano binders were studied. They contained 50-60% of gypsum-semihydrate, 20-30% of Portland cement and 10-30% of an active hydraulic additive. The latter was added to reduce the Ca concentration to 1 g/liter in aqueous solution during the hardening in the first days. Rapidly hardening, non-autoclaved, frost- and water resistant honeycomb concretes were obtained with a volume weight of 400-900 kg/m^3 and a strength of 15-45 kg/cm^2, with a cement consumption of ~100 kg/m^3. They were produced by mixing the initial components:

Card 1/2

S/081/61/000/021/056/094
Honeycomb concretes on the basis of ... B110/B101

binder, sand and gas- or foam forming additives and by hardening the products in air at ordinary temperatures or by heat treatment at 75°C. [Abstracter's note: Complete translation.]

Card 2/2

VOLZHENSKIY, Aleksandr Vasil'yevich, prof.; POPOV, Leonid Nikolayevich, kand. tekhn. nauk; CHERKINSKAYA, R.L., red. izd-va; ABRAMOVA, V.A., tekhn. red.

[Repeatedly-ground blended portland cements and concretes made from them] Smeshannye portlandtsementy povtornogo pomola i betony na ikh osnove. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 105 p. (MIRA 14:9)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).
(Portland cement) (Concrete)

VOLZHENSKIY, A.V., prof.; GAYGALAS, K.P., inzh.

Binding materials based on peat cinders. Stroi. mat. 7 no. 1:22-25 Ja '61. (MIRA 14:1)

1. Devstvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).
(Binding materials)

VOLZHENSKIY, A.V., prof.; GLADKIKH, K.V., inzh.; VINOGRADOV, B.N., inzh.

Investigating the hardening processes in binding materials made with granular furnace slags. Stroi. mat. 6 no.6:31-33 Je '60. (MIRA 13:6)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).
(Binding materials) (Slag)

VOLZHENSKIY, A.V., prof.; POPOV, L.N., kand.tekhn.nauk

High-strength fine grained concretes made with sandy portland cements. Bet. i zhel.-bet. no.2:51-55 F '60. (MIRA 13:6)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy)

(Lightweight concrete)

VOLZHENSKIY, A.V. prof.

Objectives in the production and use of autoclave-hardened and other products in precast construction. Stroi.mat. 6 no.1:17-20 Ja '60. (MIRA 13:5)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR.
(Precast concrete) (Lightweight concrete)

VOLZHENSKIY, A.V.; prof.; SILAYENKOV, Ye.S., kand.tekhn.nauk; KHARINA, T.V., inzh.

Resistance of autoclave-hardened slag-sand materials subjected to the action of corrosive media. Stroi.mat. 5 no.11:32-34 N '59. (MIRA 13:3)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury (for Volzhenskiy).
(Concrete--Corrosion)

VOLZHENSKIY, A.V., prof.; ROGOVOY, M.I.; STAMBULKO, V.I.; SHPAYER, A.L., red.izd-va; OSENKO, L.M., tekhn.red.

[Gypsum-cement and gypsum-slag binding materials and products] Gipsotsementnye i gipsoshlakovye viazhushchie i izdeliia. Pod obshchei red. A.V.Volzhenskogo. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 166 p. (MIRA 13:6)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).
(Gypsum) (Binding materials)

VOLZHENSKIY, A.V.; GLADKIKH, K.V., inzh.

Fine grained concretes and building products based on binder made of granulated furnace slags. Stroi. mat. 6 no.10:22-25 O '60. (MIRA 13:10)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR.

(Building materials)

VOLZHENSKIY, A.V., prof.; TIRANOVA, T.M., inzh.

Clinkerless binding materials made out of phosphoric slag.
Stroi. mat.9 no.6:31-33 Je '63. (MIRA 17:8)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).

VOLZHENS"KIY, D.S.

S/058/63/000/003/064/104
A059/A101

AUTHORS: Pashkovs"kyy, M. V., Volzhens"kyy, D. S., Svyekolkina, L. G.

TITLE: The synthesis of crystals of the oxide system Cu_2O - V_2O_5

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1963, 49, abstract 3E325 ("Visnyk L"vivs"k. un-tu. Ser. Fiz.", 1962, no. 1(8), 115 - 116, Ukrainian)

TEXT: By cooling the melt at a rate of 2 degrees per hour from a temperature of 700°C, single crystals of chemical compounds were grown with the properties of copper oxide - vanadium oxide bronzes. The curves of differential thermal analysis are given permitting to find the phase transition points of alloys with different contents of Cu_2O and V_2O_5.

V. Kosevich

[Abstracter's note: Complete translation]

Card 1/1

S/078/63/008/001/025/026
B117/B108

AUTHORS: Volzhenskiy, D. S., Pashkovskiy, M. V., Svekolkina, L. G.

TITLE: Some physical properties of oxygen-containing copper vanadium and silver vanadium bronzes

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 1, 1963, 255-257

TEXT: The physical properties of bronze single crystals grown by slow cooling of melts from vanadium pentoxide with 20, 25, and 30% by weight of copper-(I) oxide or silver nitrate have been studied. Shape, color, and yield of the bronzes depended on the content of copper and silver in the melt. The crystal structure was little affected by heat treatment (400°C) in air or in vacuo. The electrical conductivity of the copper vanadium bronze increased with increasing copper concentration and temperature. The electrical conductivity of silver vanadium bronze produced from the melt with 20 and 25% $AgNO_3$ showed a similar temperature dependence. For samples obtained from the melt with 30% $AgNO_3$, the electrical conductivity decreased at higher temperatures. The thermo-emf was of the same order for

Card 1/2

Some physical properties of ...

the two bronze types, and increased with increasing temperature within a wide range. For samples with 25 and 30% Cu_2O or 30% $AgNO_3$, the thermo-emf changes its sign twice in the vicinity of -100°C. The thermo-emf of all other samples showed a maximum in the negative centigrade range, and was nearly constant between -50 and +150°C. Also the Hall constant changes its sign twice within the same temperature range. This is attributed to phase transitions. There are 2 figures and 1 table.

ASSOCIATION: L'vovskiy gosuniversitet im. Iv. Franko (L'vov State University imeni Iv. Franko)

SUBMITTED: April 26, 1962

PASHKOVSKIY, M.V. [Pashkovs'kyi, M.V.]; VOLZHENSKIY, D.S. [Volzhens'kyi, D.S.]

Studying the properties of the semiconductor systems $Cu_2O \cdot Nb_2O_5$ and $Cu_2O \cdot V_2O_5$. Ukr. fiz. zhur. 6 no.4:549-555 Jl-Ag '61. (MIRA 14:9)

1. L'vovskiy gosudarstvennyy universitet im. Iv. Franko.
(Semiconductors)

VOLZHENSKIY, D.S.; PASHKOVSKIY, M.V.; SVEKOLKINA, L.G.

Physical properties of oxygen vanadium bronzes of copper and silver. Zhur.neorg.khim. 8 no.1:255-257 Ja '63. (MIRA 16:5)

1. L'vovskiy gosudarstvennyy universitet imeni Iv.Franko.
(Vanadium bronzes)

PASHKOVSKIY, M.V.; RYBALKA, V.V.; VOLZHENSKIY, D.S.

Simple device for regulating the temperature under laboratory conditions. Prib. i tekh. eksp. no.6:134 N-D '60. (MIRA 13:12)

1. L'vovskiy gosudarstvennyy universitet.
(Temperature regulators)

VOL'ZHENSKIY, D.S.

27968
S/185/61/006/004/013/015
D274/D303

24.7700 (1035, 1043, 1164)

AUTHORS: Pashkovs'kyy, M.V. and Volzhens'kyy, D.S.

TITLE: Study of properties of semiconductor systems $Cu_2O \cdot Nb_2O_5$ and $Cu_2O \cdot V_2O_5$

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 4, 1961, 549-554

TEXT: The substances used in the investigation were Cu_2O, V_2O_5 and Nb_2O_5 of type (grade) "ChDA". The specimens (in the form of tablets with diameter 8 mm and thickness 2-4 mm) were sintered in an electric furnace in an atmosphere of air at a temperature of 1200°C for 3 hours: Then they were cooled in air. The resistivity ρ of the specimens was measured. A figure shows log ρ plotted against weight % of Cu_2O for the specimens $Cu_2O \cdot Nb_2O_5$. This dependence has a linear character. Hence the conclusion that the obtained system $Cu_2O \cdot Nb_2O_5$ is a mechanical mixture of components. This

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is also confirmed by microstructural and X-ray analysis. The system $Cu_2O \cdot V_2O_5$ was similarly prepared, melted in crucibles and tempered in cold, distilled water. The resistivity of such specimens was measured. The obtained curves show a minimum in the region of 50 weight %. The presence of a singular point on the curves, three phases in some specimens, as well as the results of X-ray structural analysis, lead to the conclusion that a chemical compound was formed under the given conditions. A picture of one of the obtained alloys is shown. The resistivity measured in single crystals of specimens with 30 to 50 weight % Cu_2O, was approximately 10^{-1} ohm/cm. With further increase in Cu_2O content, the resistivity increases, approaching the resistivity of pure Cu_2O. For crystals with 30, 50 and 60 weight % Cu_2O, the temperature dependence of the electrical conductivity was measured over a temperature range of -160 to +23°C, and the activation energy of carriers calculated. The graphs show, for all the specimens, an increase in conductivity with temperature. The activation energy is constant (equal to 0.25 eV) from -160 to -20°C; at higher temperatures it decreases,

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but it increases with resistivity of specimen, i.e. it depends on how the specimen was obtained. Further, the electrical properties of $Cu_2O \cdot V_2O_5$ are compared with those of V_2O_5. Such a comparison shows that the semiconductor properties of the oxygenic lattice VO_6 appear quite strongly. Whereas in the case of natrium tungsten-bronzes the penetration of Na-atoms into the WO_3-lattice led to conductivity of a metallic character, in the case of vanadium pentoxide, only a negligible increase in conductivity was observed. The author suggests the following interpretation of the results obtained. The copper atoms yield their valence electrons to the covalent bond with oxygenic lattice, forming in the forbidden zone of vanadium pentoxide additional donor levels. This assumption is supported by Neubuhr's theory (Ref. 21: F.F. Vol'kensteyn, Electroprovodnost' poluprovodnikov (Electrical Conductivity of Semiconductors), M.-L., 1947). The decrease in activation energy of copper-vanadium bronzes compared to pure vanadium pentoxide, is due to the location of levels in the new chemical compound and to their concentration. There are 6 figures and 21 references: 13 Soviet-bloc and 8 non-Sov-

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Study of properties...

iet-bloc. The 4 most recent references to English-language publications read as follows: L.E. Conroy, M.J. Sienko, J. Am. Chem. Soc., 79, 4048, 1957; M.J. Sienko, J. Am. Chem. Soc., 81, 5556, 1959; A.D. Wadsley, Acta Cryst., 8, 695, 1955; L.H. Brixner, J. Inorg. Nucl. Chem., 14, 225, 1960.

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ASSOCIATION: L'vivs'kyy derzhuniversytet im. Iv. Franka (L'vov State University im. Iv. Franko)

SUBMITTED: December 26, 1960

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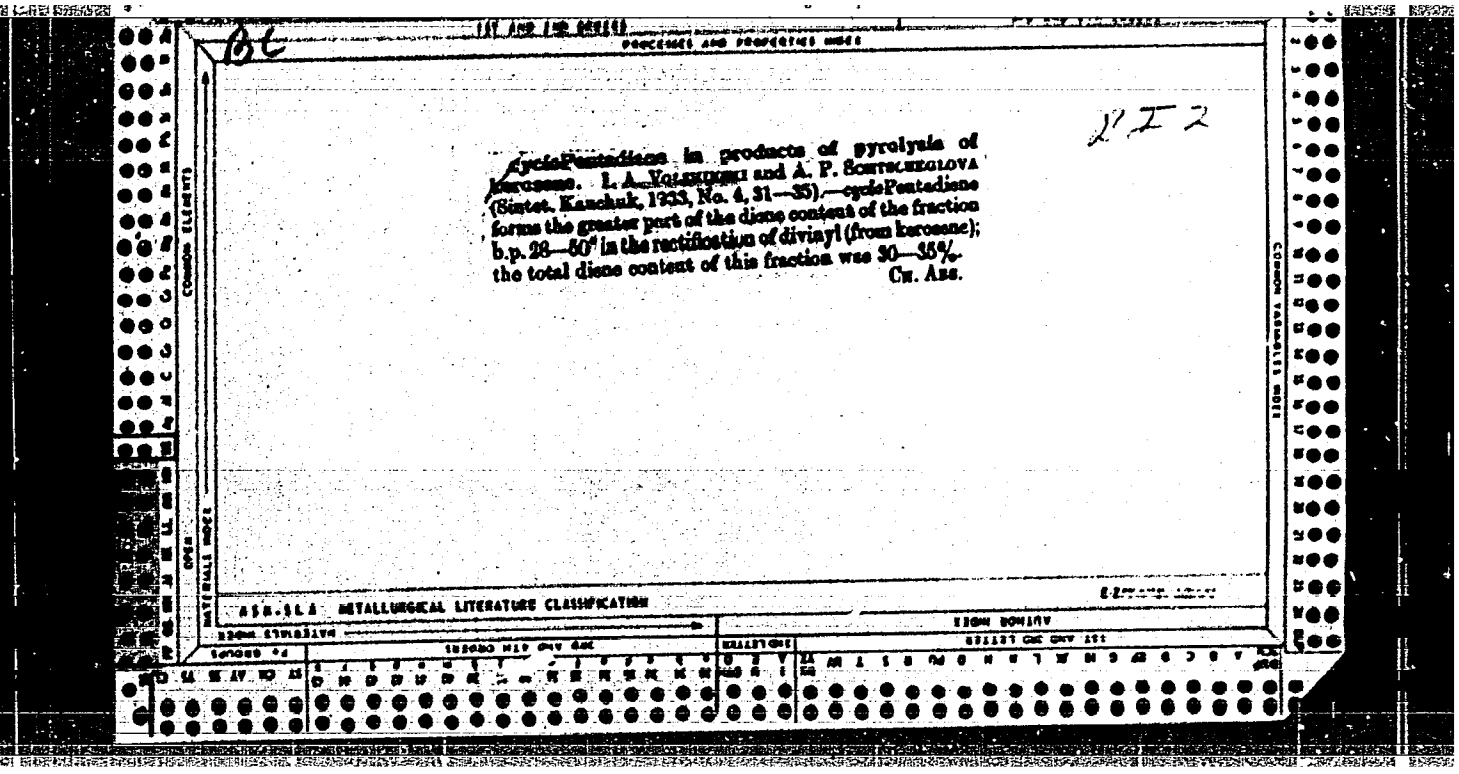
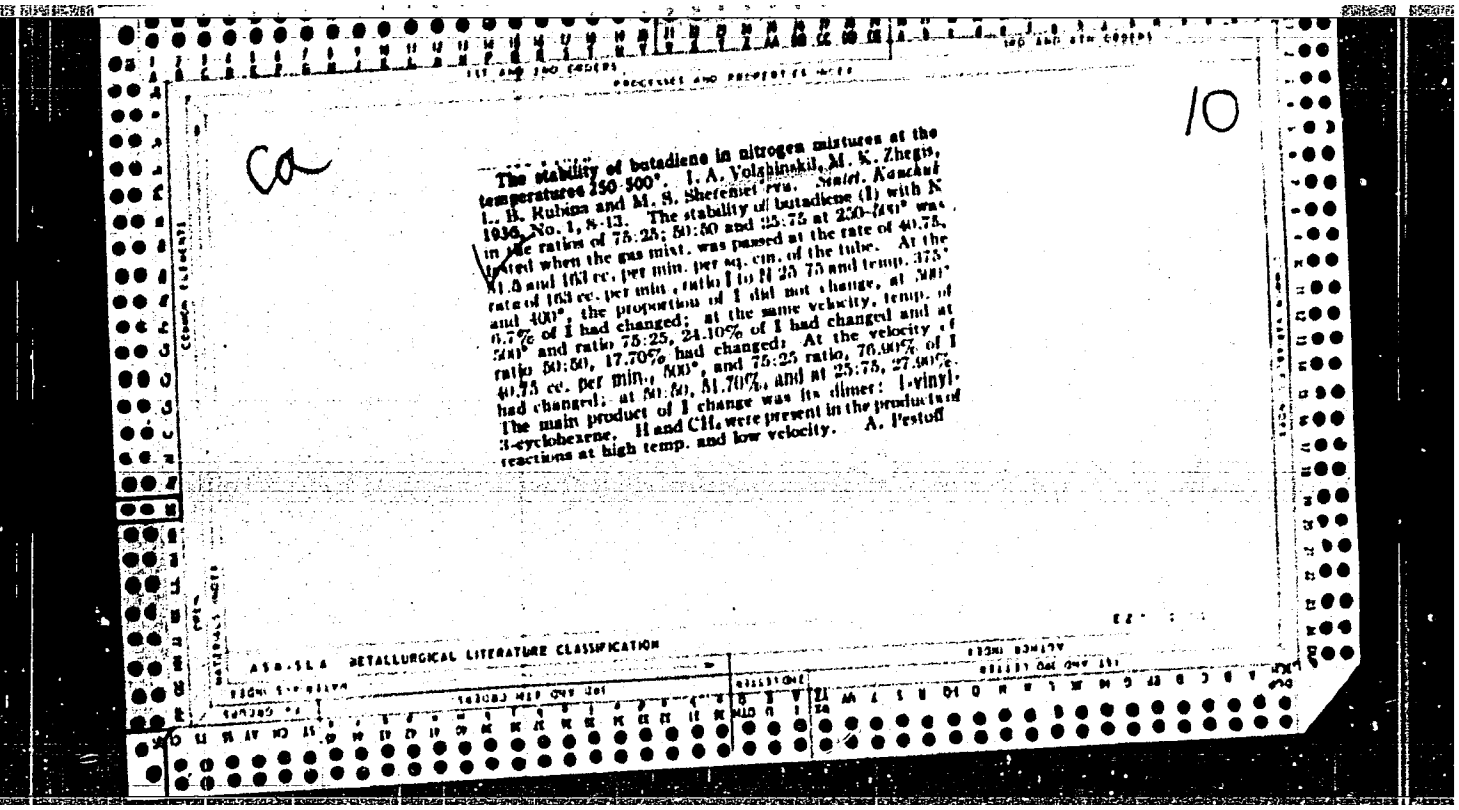


cycloPentadiene in products of pyrolysis of kerosene. L. A. Volkenshtein and A. P. Sokolenglova (Sintet. Kauchuk, 1933, No. 4, 31—35).—cycloPentadiene forms the greater part of the diene content of the fraction b.p. 28—80° in the rectification of divinyl (from kerosene); the total diene content of this fraction was 30—35%.
Ch. Abs.



Ca

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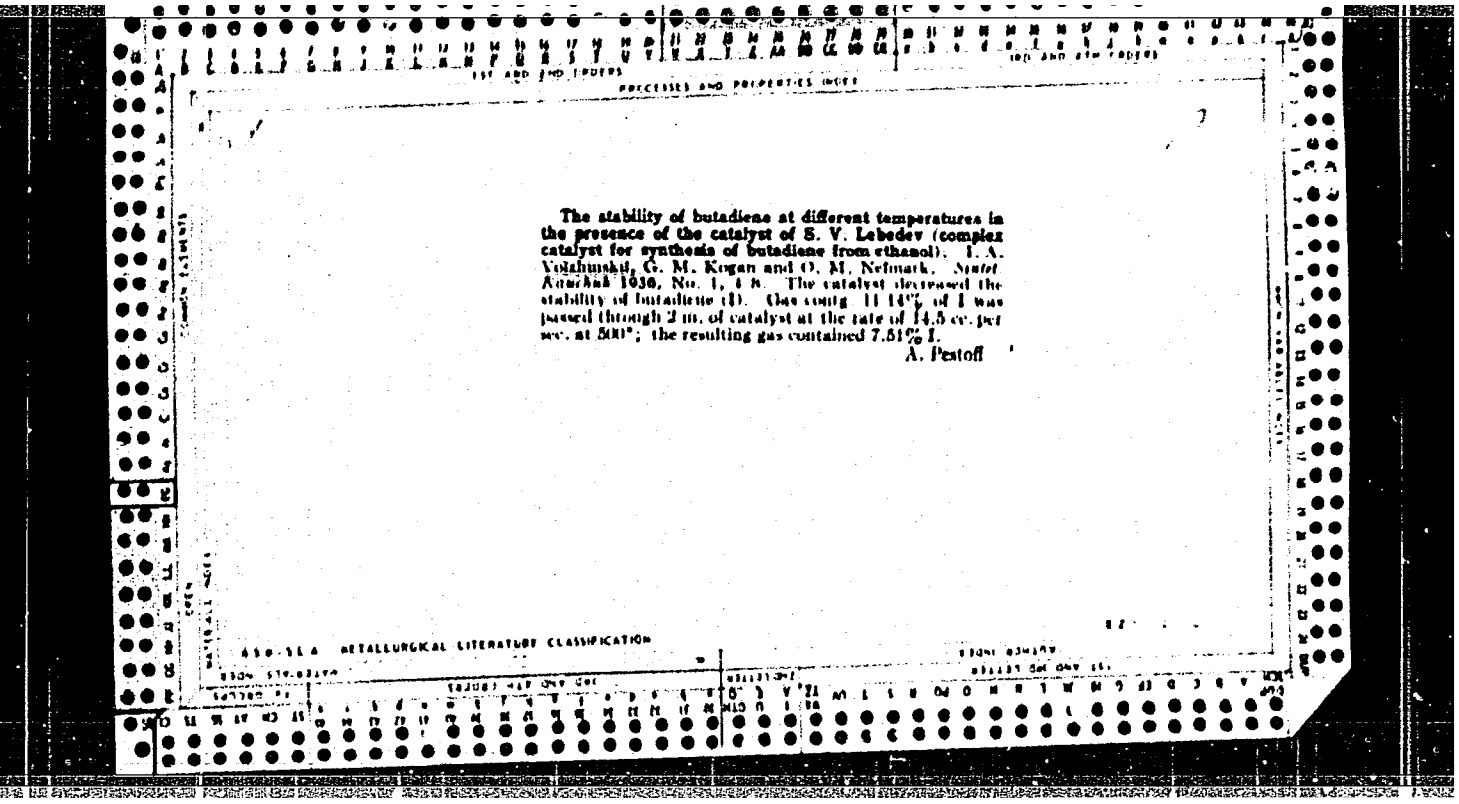
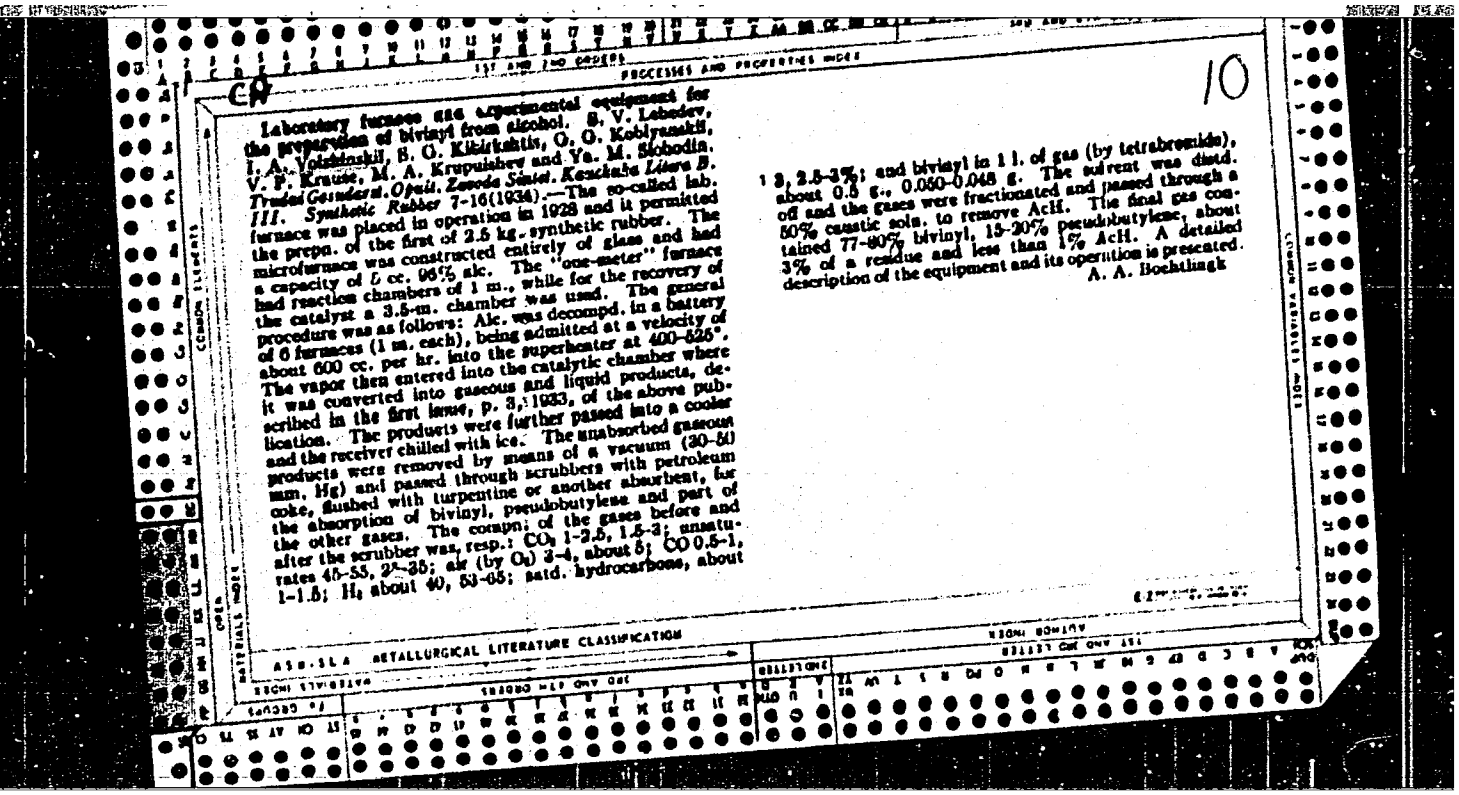
The stability of butadiene in nitrogen mixtures at the temperatures 250-500°. I. A. Volgbinskii, M. K. Zhegis, L. B. Rubina and M. S. Shefenier. *Zhur. Prikl. Khimii* 1936, No. 1, 8-13. The stability of butadiene (I) with N in the ratios of 75:25; 50:50 and 25:75 at 250-400° was tested when the gas mixt. was passed at the rate of 40.75, 81.5 and 163 cc. per min. per sq. cm. of the tube. At the rate of 163 cc. per min., ratio I to N 25:75 and temp. 375° and 400°, the proportion of I did not change, at 500° 6.7% of I had changed; at the same velocity, temp. of 500° and ratio 75:25, 24.10% of I had changed and at ratio 50:50, 17.70% had changed. At the velocity of 40.75 cc. per min., 500°, and 75:25 ratio, 76.80% of I had changed; at 50:50, 51.70%, and at 25:75, 27.90%. The main product of I change was its dimer: 1-vinyl-3-cyclohexene. H and CH_4 were present in the products of reactions at high temp. and low velocity. A. Pestoff



The stability of butadiene at different temperatures in the presence of the catalyst of S. V. Lebedev (complex catalyst for synthesis of butadiene from ethanol). I. A. Volzhinskii, G. M. Kogan and O. M. Nefmark. *Sintet. Kauchuk* 1936, No. 1, 4 8. The catalyst decreased the stability of butadiene (I). Gas containg 11.14% of I was passed through 2 m. of catalyst at the rate of 14.5 cc. per sec. at 500°; the resulting gas contained 7.51% I.

A. Pestoff



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Laboratory furnace and experimental equipment for the preparation of divinyl from alcohol. S. V. Lebedev, I. A. Yakubchikh, B. O. Kibirkshtis, O. O. Koblyanskii, V. F. Kruzse, M. A. Krupnishev and Ya. M. Slobodin. *Trudai Gosudarst. Opyt. Zavoda Sinter. Kauchuka Lifera B. III. Synthetic Rubber* 7-16(1934).—The so-called lab. furnace was placed in operation in 1928 and it permitted the prepn. of the first of 2.5 kg. synthetic rubber. The microfurnace was constructed entirely of glass and had a capacity of 5 cc. 96% alc. The "one-meter" furnace had reaction chambers of 1 m., while for the recovery of the catalyst a 3.5-m. chamber was used. The general procedure was as follows: Alc. was decompd. in a battery of 6 furnaces (1 m. each), being admitted at a velocity of about 600 cc. per hr. into the superheater at 400–425°. The vapor then entered into the catalytic chamber where it was converted into gaseous and liquid products, described in the first issue, p. 3, 1933, of the above publication. The products were further passed into a cooler and the receiver chilled with ice. The unabsorbed gaseous products were removed by means of a vacuum (30–50 mm. Hg) and passed through scrubbers with petroleum coke, flushed with turpentine or another absorbent, for the absorption of divinyl, pseudobutylene and part of the other gases. The compn. of the gases before and after the scrubber was, resp.: CO_2 1–2.5, 1.5–3; unsaturates 45–55, 2–35; air (by O_2) 3–4, about 5; CO 0.5–1, 1–1.5; H_2 about 40, 53–65; satd. hydrocarbons, about 1–3, 2.5–3%; and divinyl in 1 l. of gas (by tetrabromide), about 0.5 g., 0.050–0.048 g. The current was distd. off and the gases were fractionated and passed through a 50% caustic soln. to remove AcH. The final gas contained 77–80% divinyl, 15–20% pseudobutylene, about 3% of a residue and less than 1% AcH. A detailed description of the equipment and its operation is presented.

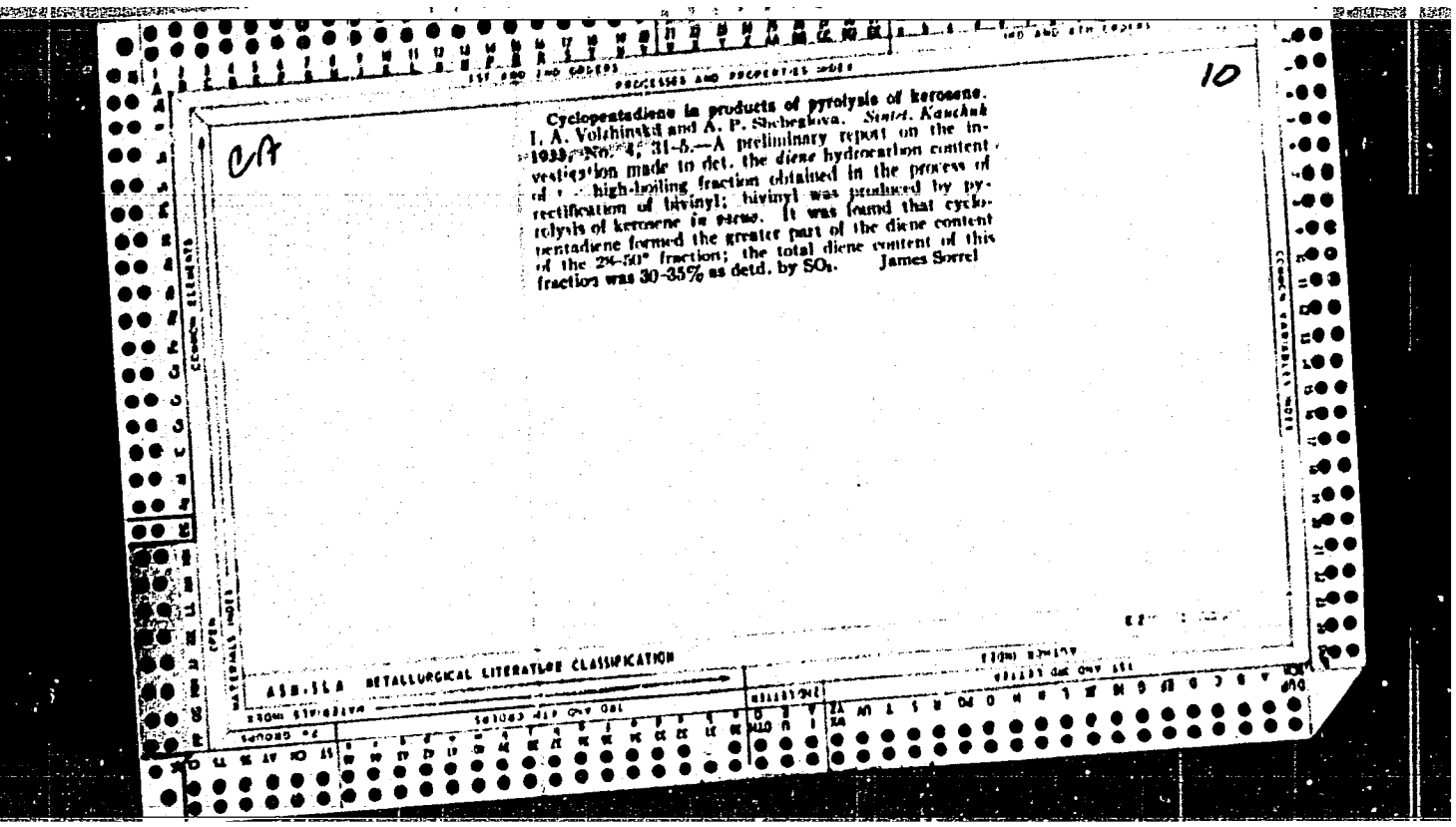
A. A. Boehtlingk

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Oxidation of synthetic rubbers. I. A. Volzhinskii and
L. I. Loginova. *Caoutchouc & Rubber* (U. S. S. R.)
No. 4 5, 41-7(1940).—Various synthetic rubbers were
oxidized in darkness in air at room temp. and at 100°,
and the quantity and nature of the oxidation products,
and the mech. properties of the rubbers before and after
oxidation, were detd. Na-butadiene polymer of 0.3
plasticity, not purified by pptn. from C_6H_6, did not absorb
O to any perceptible degree in 282 hrs. The polymer
remained soft and elastic, and did not lose its characteristic
properties. Liquid "divinol" (an unidentified product
from bivinyl) was oxidized to a great extent, with de-
crease in plasticity and soly. in ordinary rubber solvents.
The tensile strength of the polymer contg. oxidized
"divinol" was greater than that contg. unoxidized
"divinol." Rubber contg. 2% of the oleates of Cu, Mn
or Co reacted energetically with O. The rubber was
degassed and transformed into a solid, crumbly substance
which could not be milled. The compd. contained 10-
18% O. Na butadiene in CCl_4 soln. did not absorb much
O, but did undergo changes in mech. properties. Twenty-
eight references. B. Z. Kamich.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



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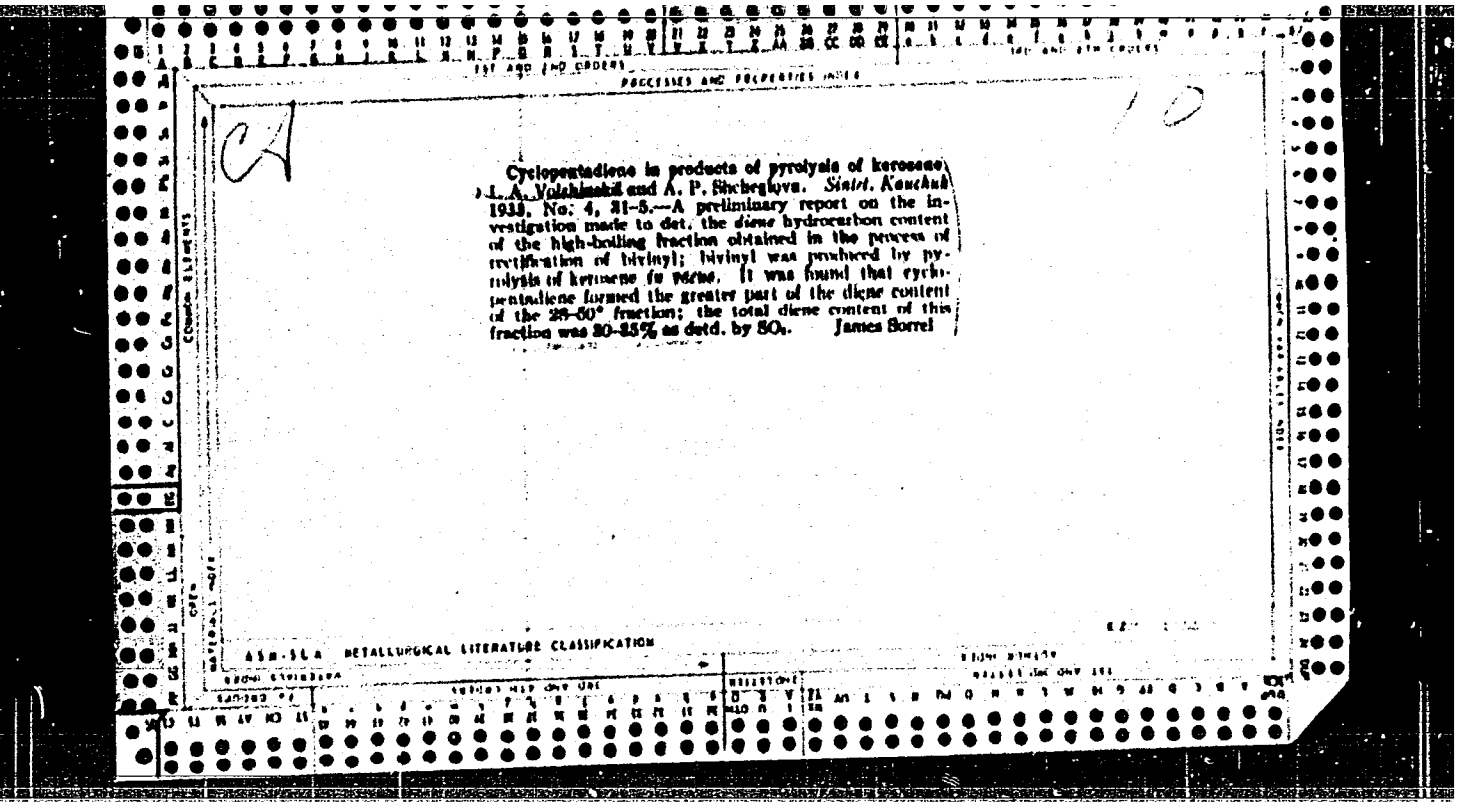
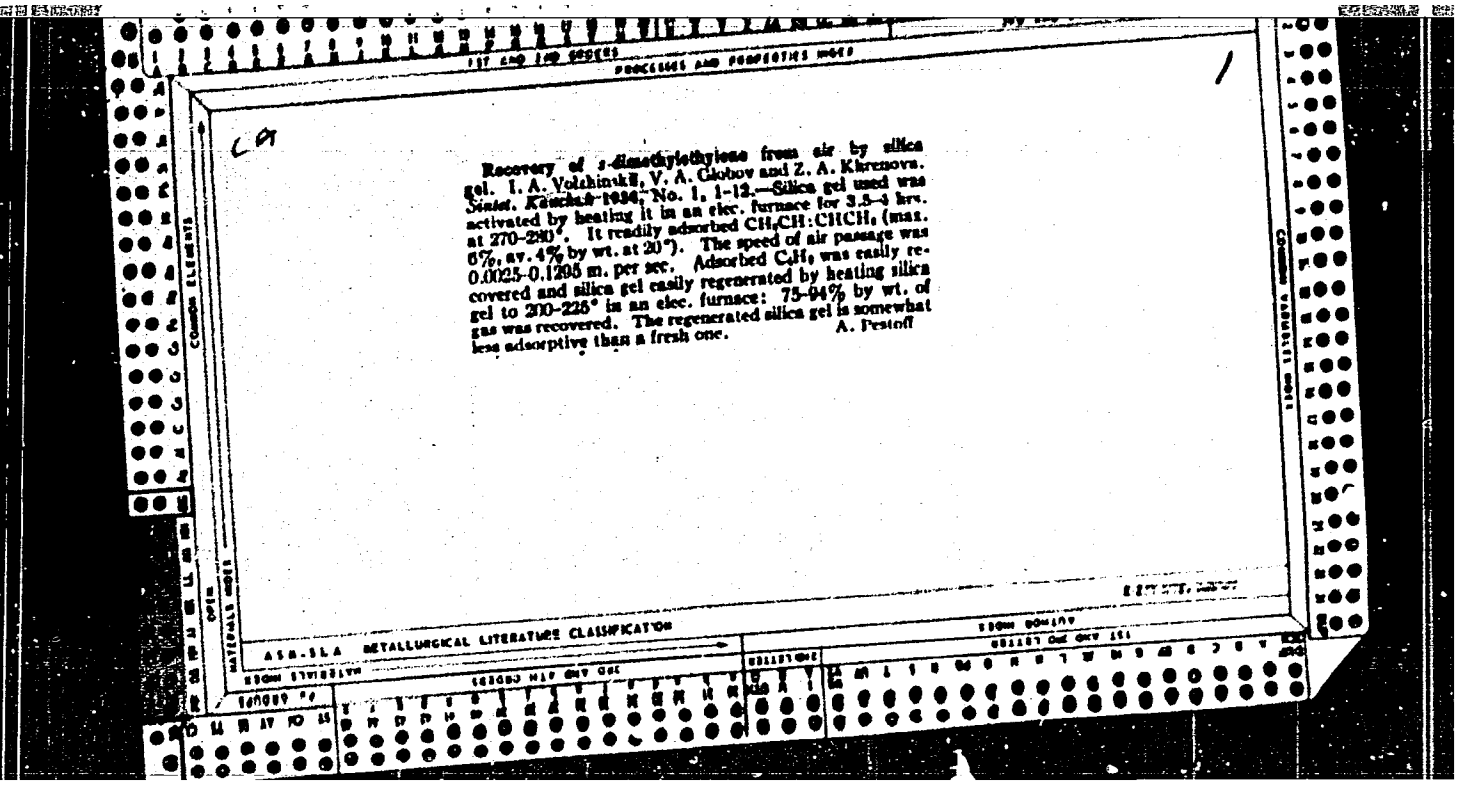
Cyclopentadiene in products of pyrolysis of kerosene. I. A. Volchinskii and A. P. Sycheglova. *Sintet. Kauchuk* 1939, No. 4, 31–5.—A preliminary report on the investigation made to det. the *diene* hydrocarbon content of a high-boiling fraction obtained in the process of rectification of divinyl; divinyl was produced by pyrolysis of kerosene in pipes. It was found that cyclopentadiene formed the greater part of the diene content of the 28–50° fraction; the total diene content of this fraction was 30–35% as detd. by SO_3. James Sorrel

ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION



CA

Cyclopentadiene in products of pyrolysis of kerosene. L. A. Volchinskii and A. P. Shcheglova. *Sintet. Kauchuk* 1938, No. 4, 21–5.—A preliminary report on the investigation made to det. the *diene* hydrocarbon content of the high-boiling fraction obtained in the process of rectification of divinyl; divinyl was produced by pyrolysis of kerosene in vacuo. It was found that cyclopentadiene formed the greater part of the diene content of the 25–60° fraction; the total diene content of this fraction was 20–25% as detd. by SO_2. James Sorrel



Recovery of β-dimethylethylene from air by silica gel. I. A. Volchinskii, V. A. Globov and Z. A. Khrenova. *Sintet. Kauchuk* 1934, No. 1, 1–12.—Silica gel used was activated by heating it in an elec. furnace for 3.5–4 hrs. at 270–280°. It readily adsorbed $CH_2CH:CHCH_3$ (max. 6%, av. 4% by wt. at 20°). The speed of air passage was 0.0025–0.1295 m. per sec. Adsorbed C_4H_8 was easily recovered and silica gel easily regenerated by heating silica gel to 200–225° in an elec. furnace: 75–94% by wt. of gas was recovered. The regenerated silica gel is somewhat less adsorptive than a fresh one.

A. Pestoff

VOLZHIN, A.K.

Cementing columns by reverse compaction with radioactive control. Neftianik 6 no.7:10-11 Jl '61. (MIRA 14:7)

1. Starshiy inzhener proizvodstvenno-tekhnicheskogo otdeleniya kontory bureniya Nefteprомyslovogo upravleniya Stavropolneft'.
(Oil well cementing)
(Radioisotopes—Industrial applications)